

40th Year of Publication

HEALTH

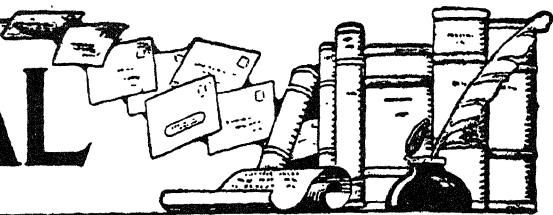
July 1949

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Schools are the foundation of future India. They should be sanitary, clean, substantial, and beautiful. In our opinion no other building material meets these standards as fully as reinforced cement concrete.



EDITORIAL



WILL THE WORLD COMMIT SUICIDE?

THIS atomic age has changed the thinking, the talk and the literature of the world, so that they are not what they were a few years ago. In those days any talk about the end of the world or its impending destruction was held up to ridicule and scorn. The papers, magazines and books of those days told us of how science and statesmanship were about to usher in a new era that would be a great improvement over anything that mankind had ever known. They told us of a new order of things that was rapidly taking place. There was to be world military and economic peace. Wealth was to be equally distributed so that there would be plenty for all, and the moral state of mankind would be so elevated that crime would be greatly reduced if not eliminated entirely. The first World War, it was admitted, was not entirely compatible with all these peace and prosperity predictions, but still that was to be a war to eliminate war, and then, all would be well. In glowing colours we were told of a future world in which the nations would as it were, embrace one another lovingly in friendship and move happily on to Utopia. But it is a disillusioned world in which we live today.

In those days if any newspaper columnist, lecturer or author disagreed with the general Utopia philosophy, he was branded as a pessimist and calamity howler, or as an unpatriotic and disloyal obstacle of progress toward peace. But the sentiments expressed today reveal that such a one was only a little ahead of the general public in time, and that his views and predictions made at that time were very modest and conservative compared with those which the world chorus sings today. He who a quarter of a century ago made predictions which the world confirms today, was mistaken only about the proportions of the horrors toward which the world was progressing, and not about their nature. The great world leaders in science

and statesmanship are far more pessimistic and gloomy in these days than anyone was twenty-five years ago.

A great disillusionment has come over those who were singing the praises of the divine spirit in man and the progress of the world that was to be made through the exercise of his majestic powers. The times in which we now live reveal how artificial, fleeting and unsubstantial was their exultation. Today that chorus of joy has been replaced by an almost unadulterated wailing of despair and hopelessness. Man has learned how to make use of a power with which he has become a potential destroyer of the world. Since man has always employed increased knowledge and power for evil and mischief, on what reasonable grounds can it be assumed that knowledge of how to employ the terrifying power of atoms will not also be employed for evil and mischief? Before the heart of man is changed it is gross vanity to cherish such hope. Sudden world catastrophe by the power controlled by man is the logical reaction to the spirit within him. The idea of any such swift change has always been repelled by men of science, who have insisted that all changes must come gradually as the result of natural laws working according to certain order and in conformity to that which was already known. But all such conceptions have been shattered by recent events.

The two world wars which a large part of the world's inhabitants still living have witnessed, were quite different in character from any previous ones. They were different in extent, each one affecting practically the entire world. Not only during the periods of actual combat, but even until today. They were different in that horrible machines and inventions such as had never before been used to destroy life, made them more destructive to life and property than any previous wars, not only on the battlefields, but among civilian popu-

lations, who instead of participating, attempted to flee from them. Swords, battle-axes, and ordinary gun powder did not enable men to give vent to the full measure of their ferocity, but the modern scientific inventions turned to war have greatly enhanced their ability to do so, as is evidenced by the unspeakable horrors of these global wars. With the dawn of this vaunted civilization man has learned to be barbaric to a degree that puts ancient barbarism in the shade. Education, science, general learning, and the so-called progress of civilization, have not changed the evil spirit in the heart of man, and now he has actually become the potential destroyer of the human race.

Warfare is organized differently now from what it was in former times, so that far vaster armies and greater accumulations of munitions can be thrown into combat, controlled and supported. Science can now starve out entire nations, blockading and disrupting all communications, preventing the movement of food supplies and destroying stores by air raids; and now we read that the horrible means of scattering deadly disease has been perfected which can be used almost unbeknown to the victims of destruction until they begin to perish with incurable maladies. Plants and growing crops can be similarly infected with destructive diseases.

As we scan those sections of publications called the "March of Science," we are made aware of the unfolding of even more dreadful possibilities. Some of the greatest of the world's people are smarting under a sense of wrongs inflicted on them and are burning with hearts full of hatred. Feelings unrelated to anything like humanity, control men to such an intense degree that no human power can prevent their being committed into terrifying deeds. Only when exhaustion and failure of the means for more destruction overtake the armies, can a bit of respite be effected and this only to be a little

period of preparation for more and worse carnage. Never before has the human race been in this position. Men now, are not promising to usher in a better world, they are warning us to prepare for the worst. They tell us that the world is about to commit suicide and that nothing that man can do will stop it. Men have not found the way to end war, but they have found a way by which they can very nearly commit world suicide.

Scientists and students of world affairs do not hold out much hope. Dr. Harold C. Urey, Professor of Chemistry at the University of Chicago and a Nobel Prize winner, wrote in 1946: "I write this to frighten you. I am a frightened man myself. All scientists I know are frightened—frightened for their lives—and frightened for your life.

"I say to you—and I wish I could

say it face to face—that we who have lived for years in the shadow of the atomic bomb are well acquainted with fear, and it is a fear you should share.

"Perhaps you think this scientist is not going to talk about science—he is going to talk about politics. He has no right to do that. What does he know about politics?

"I know this: I hear people talking about the possible use of the atomic bomb in war. As a scientist I tell you there must never be another war."—*Collier's*, January 5, 1946.

A special correspondent of the *New York Times* of October 31, 1945, wrote:

"Five hundred and fifteen scientists, asserting that no effective defence was possible in atomic war-

fare, called today for 'international co-operation of an unprecedented kind' to assure survival of the human race.

"In a statement urging that the development and production of atomic energy be brought under effective international control, the physicists, chemists, and engineers who have engaged in war research at Harvard and the Massachusetts Institute of Technology declared: 'If the people of the world are to survive, it is necessary for the United States government, as first producer of the [atomic] bomb, to initiate immediately steps to achieve world co-operation for the prevention of war.'"

Volumes of similar statements by world leaders are pouring from the presses. If any of them have found a way to check the trends, they have not yet made them known. Is the world bound to commit suicide?

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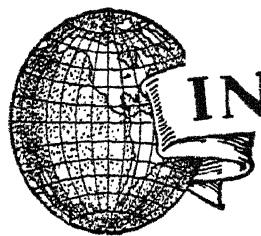
Editorial

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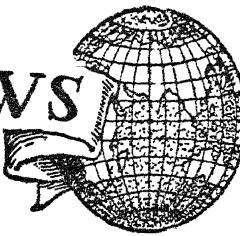
Doctor Says

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Etc., Etc.



IN THE NEWS



Achievement

KATHLEEN HART, thirty-one-year-old artist of Byron, Ontario, Canada, produces paintings described as "some of the artistic miracles of our age," and yet she was born without arms or legs. She paints by holding the brush between the stubs of her arms while standing on her artificial legs. She works about five hours a day, and recently exhibited an impressive collection of thirty-two oils of Canadian flowers and still-life sketches.

Nerves

Izvestia, a Soviet newspaper, has announced the death of one of the country's leading medical surgeons, Professor A. Vishnevsky. The doctor was famous for transplanting nerves from human bodies soon after death to living men who had had a considerable portion of their main motor nerves destroyed in their arms or legs. Such nerves, when properly treated, can be kept indefinitely, and whenever used take root and restore normal activity.

Literacy

THE government of Assam has launched an educational scheme by which it is hoped to make all boys and girls in Assam literate by 1958.

Southern City

AN ANTARCTIC city for 10,000 persons is now being built by 620 Italian pioneers on the site of Ushuaia, a former Argentine penal settlement on Tierra del Fuego Island. Seventy-two prefabricated houses have been erected, and soon to be built are a cellulose factory, a pressed wood plant, brick ovens, mechanic work shops, and a furniture factory.

Rabies

IN MAY of 1948, a fox terrier nearly five years old was landed in England from India and later developed symptoms of rabies. After its destruction, microscopic examination confirmed that it had suffered from rabies. An interesting feature of the case was the lengthy period of incubation, which according to the reports, could not have been less than seven months.

Volcano Erupts

ON FEBRUARY 9, Ngauruhoe, a 7,500-foot volcanic mountain in the centre of New Zealand's north island, broke into eruption. Huge red rocks were thrown nearly a thousand feet into the air, smoke rose several thousand feet and avalanches of boulders swept down its slopes. There was no sign of lava, and no damage was reported.

Music

ACCORDING to a survey conducted by the American Music Conference, a private organization in Chicago, Illinois, one out of every eight persons in the United States plays a musical instrument, and about three out of every ten juvenile players receive school instruction on instrumental music before finishing high school.

U. S. A. Merchant Fleet

THE United States' sea-going merchant fleet now totals 1,546 vessels, aggregating 17,300,000 deadweight tons, compared with 1,092 vessels aggregating 9,300,000 tons in 1939, the Joint Committee for the American Merchant Marine announces. The committee, sponsored by nearly all segments of American shipping management and labour, reports 1,161 of the vessels are privately owned and operated and 385 are government-owned but operated under agreements, by private shippers.

Hitler's Chancellery

HITLER'S chancellery, which was destroyed by the Russians was the Fuehrer's Berlin residence from January, 1939. It was in a bunker in his private air raid shelter in the garden that the Fuehrer committed suicide on April 29, 1945. The chancellery had a frontage of a little over a quarter of a mile on Berlin's famous Wilhelmstrasse and was designed by Speers who was the architect of the Nazi capital Hitler planned. Some 4,500 workers and technicians were engaged in its construction which took almost a year. The building was originally divided into three parts each of which contained a large hall with accommodation for many thousands of persons. Diplomatic visitors to the Fuehrer were led to a special "court of honour" and then conducted through a series of drawing rooms to the official reception hall. Hitler's study, which led on to a garden, adjoined the hall.

Atom Bomb Stock

THE United States will continue to keep secret the number of atom bombs in its possession, President Truman has announced. The atom bomb is the size of a golf ball, but is equal to 5,400,000 pounds of TNT, Lieutenant-Colonel William R. Stark, of the Armed Forces Industrial College, disclosed to industrial leaders at Los Angeles some time ago. He added: "The atom bomb's blast is no different from other bombs except in force, though the flash heat can inflict burns at a distance of three miles. Radio-activity was responsible for ten per cent of deaths after the wartime atom bombs fell in Japan."—P. T. I.—Reuter.

Loot

GENERAL MacArthur has ordered the Japanese government to return diamonds and jewellery looted by the Japanese army during the war from the Sultans of Manipura and Pontianak, Borneo.

Mosquitoes

IT has been found that mosquitoes have favourite colours. They prefer black, red, and blue, and like white and yellow the least. When in mosquito infested places, therefore, it is well to wear white or yellow.



M. P. WORKS HIS PASSAGE

To learn by practical experience some of the problems of his seamen constituents, Mr. George Thomas, Labour M. P. for Cardiff Central, recently worked his passage on the round trip to Canada aboard the S. S. "Hawkinge." Mr. George Thomas, in his working overalls, looks out as the S. S. "Hawkinge" approaches Garston Docks, Liverpool.



B. L. S.

BROWN COAL IN BERLIN

Workmen drilling for brown coal during operations on Roedernallee-Heinickendorf (in the French sector of the city) where miners found the first layers of the brown coal only twenty meters under the surface. The Western City Council are reported to have approved an allocation of 100,000 marks for the initial workings. It is expected that by next autumn over 1,000 tons daily of brown coal will be brought up—thus relieving much of the load now carried by the Allied air-lift into Berlin. Drilling is under way in six different sections of the French sector.



Govind Lal

IN OUR fright and panic over poliomyelitis and our present inability to either cure or to definitely control its spread, we are likely to forget the tremendous progress made in preventive and curative medicine in recent years. Much of this has been within the memory of the writer. Hence a little review of past accomplishments and those occurring almost every day will hearten us. While the cure for every ill of the human body cannot be expected, or preventive measures attained, those already achieved are little short of miraculous.

Let us refresh our minds on what has been done, as an encouragement to the future. It was only 152 years ago (1796) that the vaccination against smallpox was used for the first time. With it came the beginning of the control of this most destructive disease which had ravaged all humanity up to that time. Since then we have learned to control smallpox so completely that, with co-operation of a population, it can be completely eliminated, as it has been from many communities. If it occurs now, we regard it as something to be much ashamed of.

Diphtheria was very destructive when the writer was a young doctor. While I was an intern, the discovery of the antitoxin was made, and we saw the disease that had destroyed thousands of children annually gradually disappear. Today many communities have not had a single case for years. This is one of the terrible infections that can also be cured by early treatment.

Typhoid fever next fell under our attacks and has disappeared from all well-governed communities. It does not need to occur anywhere. Hydrophobia (rabies), tetanus (lockjaw),

THE DOCTOR ADVISES ABOUT

When the Pilgrims landed in America, they took smallpox with them. Many historians think that the rapid spread of this disease and the consequent destruction of thousands of hostile natives had much to do with the ease and speed of the settlement of this new land. But people both there and in Europe, as well as in the rest of the world, were constantly being destroyed by smallpox, bubonic plague, typhus fever, typhoid fever, dysentery, tuberculosis, and diphtheria. The epidemics we usually call "childhood diseases" (measles, scarlet fever, chicken pox, infantile diarrheas, etc.) were severe. Malaria and other fevers were very destructive. Insect pests, such as lice, fleas, bedbugs, flies, mosquitoes, and others, were regarded as necessary evils.

Now we can completely prevent many of the above-mentioned diseases, cure many others as well as prevent them. But they do still occur through carelessness, stubbornness, stupidity, or lack of knowledge on the part of many people. Others can be partly controlled or cured if doctors get them early. Still other diseases baffle us more or less completely; but we have conquered or largely overcome many of the destructive diseases of the past. Today thousands of our best medical brains are working on these problems, with almost limitless financial support and all the resources of science backing them, so there is great hope of soon advancing to the control of some that are still great problems.



GERMANY'S "IRON LUNG" IS MADE IN AIRCRAFT "SHADOW" FACTORY

MUNICH:—In a disused aircraft "shadow" factory just outside this Bavarian town, the German version of the "Iron Lung"—the Biomotor, invented by the late Viennese Dr. Eisennenger—is to be constructed by a team of fifteen workers under the direction of Wilhelm Huebner, 42, of Bayreuth.

Huebner has been brought to Munich by the military government to produce the Biomotor as a weapon in the battle against infantile paralysis—a constant threat in under-nourished Germany.

Huebner plans a production of twenty-five Biomotors a month and hopes to equip all hospitals in Western Germany. He is starting from scratch in Munich for all the industries formerly making parts for the Biomotor are now located in the Soviet Zone.

The machine, costing about 2,500 Deutsch marks, weighs about eighty pounds and can be used in most respiratory cases.

Photo Shows: Wilhelm Huebner demonstrating the Biomotor—the German "Iron Lung" at his Munich factory.

--WNPS.

yellow fever, Rocky Mountain spotted fever, tularemia, typhus fever, brucellosis (Malta, or undulant fever) and bubonic plague can largely be prevented by vaccination.

The control of practically any insect or rodent pest is possible where a community will pay the price. Animal diseases that also attack men are mostly preventable.

The above-mentioned maladies have largely yielded to preventive measures, but as yet we have no certain cures, though many are promptly relieved by proper treatment. Diphtheria, scarlet fever, tularemia, malaria, venereal diseases, and many tropical diseases, some forms of cancer and many surgical conditions now respond promptly to treatment and patients often quickly recover. Recent reports indicate that brucellosis is also being cured.

Tuberculosis can be almost certainly prevented, and many cases that are discovered early are completely arrested (some say cured) by modern methods.

ments are partly successful. If paralysis does occur, much can be done in re-educating the child to use the partly paralyzed muscles. In some cases, transplanting other muscles that are active secures considerable motion.

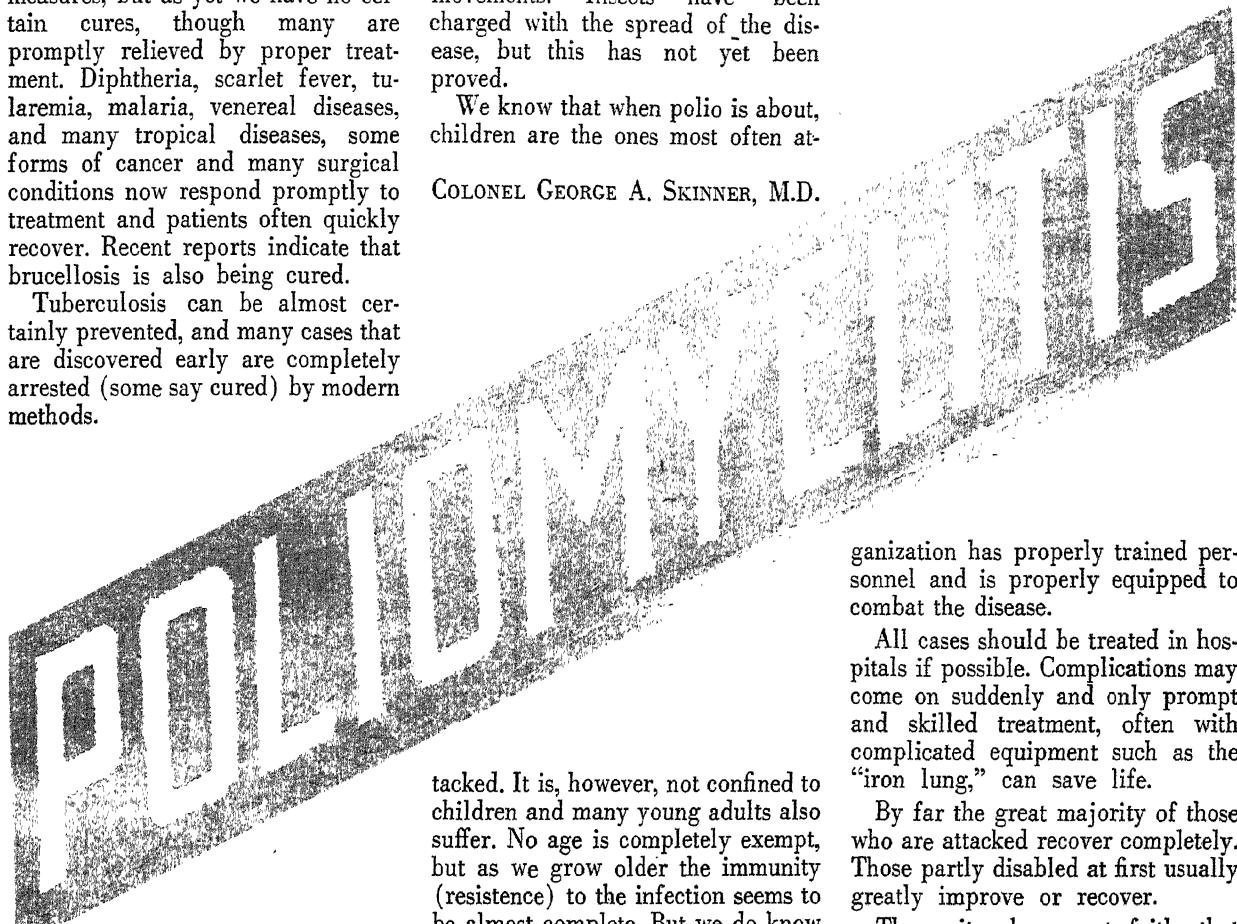
We have not yet found out how poliomyelitis spreads most commonly, though it is known that the virus is found in the secretions of the nose and throat and in bowel movements. Insects have been charged with the spread of the disease, but this has not yet been proved.

We know that when polio is about, children are the ones most often at-

COLONEL GEORGE A. SKINNER, M.D.

sions, stiff neck, vomiting, drowsiness, especially if these symptoms develop suddenly, competent medical advice should be secured at once and a careful watch kept, as early treatment is of much greater value than later efforts.

If an epidemic of poliomyelitis does start, the local community, unless fully prepared, should not attempt to handle it alone, but should call upon the Red Cross, which or-



It is true that we do not yet know the answer relative to poliomyelitis. We all recognize its gravity, yet it is much less serious than many other diseases. It is much in the headlines because so many children are suddenly crippled or die from its attacks. But we do know that, compared to the number attacked, the death rate is relatively low and the number of cripples is comparatively small.

There are thousands of cases so mild that they are not recognized at all as polio. Some authorities go so far as to say that practically all of us have had or will get the disease sometime, and those who recover have complete protection for life.

We have learned that some treat-

tacked. It is, however, not confined to children and many young adults also suffer. No age is completely exempt, but as we grow older the immunity (resistance) to the infection seems to be almost complete. But we do know that children should be kept from swimming pools and away from unnecessary crowds, like in cinemas, etc. No place is exempt from attack, but the fewer people around, the less likely attacks are.

With the great amount of investigation being carried on by the most skilled talent, we are certain that difficult as the problem is, it will be solved in the near future. Other difficult problems have been solved, perhaps by a lucky accident, but more often by persistent, hard work. In the meantime panic and fear are of no use.

If there is the slightest indisposition on the part of a child during an epidemic of polio, such as a "cold," slight fever, fretfulness, apparent pain upon movement, mild convul-

ganization has properly trained personnel and is properly equipped to combat the disease.

All cases should be treated in hospitals if possible. Complications may come on suddenly and only prompt and skilled treatment, often with complicated equipment such as the "iron lung," can save life.

By far the great majority of those who are attacked recover completely. Those partly disabled at first usually greatly improve or recover.

The writer has great faith that there will be an early discovery of control of poliomyelitis. He has seen established most of the controls of the many diseases mentioned and there are many others less known that have not been included in the list.

"In India and Pakistan various medical organizations and hospitals are taking energetic measures in the interest of preventing and treating this scourge—urged on in their endeavours by the definite increase of infantile paralysis which has been noticed in these countries of late. We wish them success in all they undertake and look forward to the day when through research and the efforts of our medical friends, infantile paralysis will join the ranks of other defeated foes of mankind."

MASSAGE, which is a scientific method of manipulating body tissue, is not a new form of treatment. On the contrary, it is probably one of the oldest known therapeutic measures.

The Chinese employed massage as a means of treatment two thousand years before Christ. Ancient Chinese literature, written long ago, contains much information on the subject. One book, called *The Cong-Fou of the Tao-Tse* contains an outline of massage movements and manipulative therapy. Many of the procedures outlined in this book were later brought to the attention of the medical world by the pioneers of physical treatment, Henrik Ling of Sweden and Dr. Mezger of Holland.

The Japanese also made a contribution to the scientific use of massage. A book called *San-Tsai-Tou-Hoei*, published in the sixteenth century, contains records which show that massage was used by the Japanese one thousand years before Christ. The illustrations in the book show active and passive movements, and the manner in which the massage was administered.

The people of the ancient Chinese and Japanese empires were not the only ones to use massage. Hindus and Persians used it extensively, as did the natives of the Sandwich Islands and the Maoris of New Zealand.

MASSAGE UNDERSTOOD BY ANCIENT GREEKS AND ROMANS

The ancient Greeks and Romans used massage in connection with their baths. The famous Greek physician Hippocrates made intelligent use of massage movements. From his writings we can see that he appreciated the same principles as are applied today. Doubtless much of Hippocrates' knowledge of physical treatment was gained from the observation of the effects of massage on his patients, and since he was physician to the gladiators, there would be no dearth of patients! That he was a keen observer there is no doubt, for he emphasized the fact that "rubbing up" (*effleurage*) was more effective than "rubbing down" (*centrifugal stroking*), especially in the treatment of cases in which there was some effusion. It is doubtful whether he understood the circulation of the blood and lymph as we do today.

Another Greek physician, Asclepiades, relied almost exclusively on massage in his treatment of disease, and it was this physician who dis-



ROY P. H. CHARLTON, L.P.M.E., M.S.F., M.S.S.Ch.

covered that gentle stroking will induce sleep.

Of the Roman schools of medicine, Celsus, who lived between 42 B.C. and A.D. 37, is known to have used and advocated massage for many diseases. He gave very concise instruction regarding the use of various massage movements.

Many other Greek and Roman physicians placed on record the use they made of massage in the treatment of disease.

PERIOD OF DARKNESS

As time passed the scientific use of massage seems to have fallen into oblivion, and during the Middle Ages it was practically unknown. In the sixteenth century, a French barber-surgeon, Ambroise Pare, taught massage movements to his students. In his writings he classified the movements into three groups; gentle, medium, and strong. Unfortunately, Pare seems to have been the only physician of his time to show an interest in massage, and there is little recorded of the use of massage until the end of the eighteenth and the beginning of the nineteenth centuries.

INTEREST REVIVED

From the 1780's to the 1840's the interest in massage was renewed by three French doctors, Miebom, Tis-

sot, and Bonnet. Their work, however, received but little attention. About the only thing that remains as a result of their work is the French nomenclature applied to the movements originally outlined by the early Greek and Roman workers. The interest in massage as a therapeutic agent soon waned, and once more the practice of massage fell into oblivion.

The real development of massage as a science was the work of Henrik Ling of Sweden and Dr. Mezger of Holland. Ling was the first worker to classify active and passive movements. About 1860 Dr. Mezger in co-operation with students and other workers, produced a simple, but scientific and effective system out of all the various massage movements.

Ling was about forty years old when he took up the serious study of massage and remedial gymnastics. Prior to this he had studied theology and had served in the Danish navy, in which capacity, incidentally, he fought against Lord Nelson in 1801.

Henrik Ling laboured under many difficulties, and had to contend with the opposition of the medical profession. It was not until he was sixty-eight years old that he saw the triumph of his work. In that year the king made him a Knight of the Order of the North Star, and bestowed

upon him the title of "Professor."

MASSAGE ASSUMES ITS RIGHTFUL ROLE

From this period onward, the study and application of massage as a scientific form of treatment has progressed. Medical practitioners of Europe and America have given much time, thought, and research to the development of massage technique. Massage has not, until recent years, been so widely used in this country as in some other European countries. Indeed it is doubtful if the general public are even now fully aware of the scope of scientific massage, and the number of diseases that can be treated by it.

Massage has, unfortunately, been used by quacks and charlatans all too often. As with other forms of physical treatment the massage has been applied by operators with but a

superficial knowledge of the movements used, and little or no knowledge of anatomy, physiology, and the effects the movements produce on the patient. The "cures" produced have been purely coincidental, and such treatment given by unskilled and careless operators has been known to produce adverse symptoms in the patient.

In the past this empirical use of massage has caused the medical profession to look somewhat askance at massage as a therapeutic agent. In more recent years, however, the scientific manipulation of body tissue as a proved therapeutic agent has gained the confidence and support of the medical profession. The practice of massage is confined to those with special training, and these operators work in close connection with the physician. Great advances have been made in technical knowledge and in

the application of physical treatments. One of the most outstanding advances of recent years was the introduction, by Sister Elizabeth Kenny, of physical treatment in all stages of infantile paralysis.

The intelligent application of massage, in conjunction with other forms of physiotherapy—hydrotherapy and electrotherapy—is to be advocated whenever possible. Physical treatment calls upon the natural reserves of the body to combat disease, and is therefore to be preferred before the unlimited use of drugs which are in many cases only temporary stimulants or sedatives. But do not misunderstand what we have said, for we in no way deprecate the great value of such products of medical science as the sulphonamide group of drugs, insulin, penicillin, and streptomycin. These all have their place in the modern treatment of disease.

REGULARITY IN EATING

E. G. WHITE

THERE is a class who seem to think that whatever is eaten is lost, that anything tossed into the stomach to fill it, will do as well as food prepared with intelligence and care. But it is important that we relish the food we eat. If we cannot, and have to eat mechanically, we fail to receive the proper nourishment. Our bodies are constructed from what we eat; and in order to make tissues of good quality, we must have the right kind of food, and it must be prepared with such skill as will best adapt it to the wants of the system. It is a religious duty for those who cook, to learn how to prepare healthful food in a variety of ways, so that it may be both palatable and healthful. Poor cookery is wearing away the life energies of thousands. More souls are lost from this cause than many realize. It deranges the system and produces disease. In the condition thus induced, heavenly things cannot be readily discerned.

Some do not feel that it is a religious duty to prepare food properly; hence they do not try to learn how. It requires skill to make it both palatable and nourishing. In order to learn how to cook, women should study, and then patiently reduce what they learn to practise. People are suffering because they will not take the trouble to do this. I say to such, It is time for you to rouse your dormant energies, and inform yourselves. Do not think the time wasted which is devoted to obtaining a thorough knowledge and experience in the preparation of healthful, palatable food. No matter how long an experience you have had in cooking, if you still have the responsibilities of a family, it is your duty to learn how to care for them properly. If necessary, go to some good cook, and put yourself under her instruction until you are mistress of the art.

A wrong course of eating or drinking destroys health, and with it the

sweetness of life. Oh, how many times has a good meal, as it is called, been purchased at the expense of sleep and quiet rest! Thousands, by indulging a perverted appetite, have brought on fever or some other acute disease, which has resulted in death. That was enjoyment purchased at an immense cost.

Because it is wrong to eat merely to gratify a perverted taste, it does not follow that we should be indifferent in regard to our food. It is a matter of the highest importance. No one should adopt an impoverished diet. Many are debilitated from disease, and need nourishing, well-cooked food. Health reformers, above all others, should be careful to avoid extremes. The body must have sufficient nourishment. The God who gives His beloved sleep has furnished them also suitable food to sustain the physical system in a healthy condition.

Many turn from light and knowledge, and sacrifice principle to taste. They eat when the system needs no food, and at irregular intervals, because they have no moral stamina to resist inclination. As a result, the abused stomach rebels, and suffering follows. Regularity in eating is very important for health of body and serenity of mind. Never should a morsel of food pass the lips between meals.

Many indulge in the pernicious habit of eating just before retiring. They may have taken their regular

meals, yet because they feel a sense of faintness, they think they must have a lunch. By indulging this wrong practice it becomes a habit, and they feel as though they could not sleep without food. In many cases this faintness comes because the digestive organs have been too severely taxed through the day in disposing of the great quantities of food forced upon them. These organs need a period of entire rest from labour, to recover their exhausted energies. A second meal should never be eaten until the stomach has had time to recover from the labour of digesting the preceding meal. When we lie down at night, the stomach should have its work all done, that it, as well as other portions of the body, may enjoy rest. But if more food is forced upon it, the digestive organs are put in motion again, to perform the same round of labour through the sleeping hours. The sleep of such is often disturbed with unpleasant dreams, and in the morning they awake unrefreshed. When this practice is followed, the digestive organs lose their natural vigour, and the person finds himself a miserable dyspeptic. And not only does the transgression of nature's laws affect the individual unfavourably, but others suffer more or less with him. Let any one take a course that irritates him in any

way, and see how quickly he manifests impatience! He cannot, without special grace, speak or act calmly. He casts shadow wherever he goes. How can any one say, then, "It is nobody's business what I eat or drink"?

It is possible to eat immoderately, even of wholesome food. It does not follow that because one has discarded the use of hurtful articles of diet, he can eat just as much as he pleases. Over-eating, no matter what the quality of the food, clogs the living machine, and thus hinders it in its work.

Many make a mistake in drinking cold water with their meals. Food should not be washed down. Taken with meals, water diminishes the flow of saliva; and the colder the water, the greater the injury to the stomach. Ice-water or ice-lemonade, taken with meals, will arrest digestion until the system has imparted sufficient warmth to the stomach to enable it to take up its work again. Masticate slowly, and allow the saliva to mingle with the food.

The more liquid there is taken into the stomach with the meals, the more difficult it is for the food to digest; for the liquid must first be absorbed. Do not eat largely of salt; give up spiced pickles; keep fiery food out of the stomach; eat fruit with the meals, and the irritation that calls

for so much drink will cease to exist. But if anything is needed to quench thirst, pure water is all that nature requires. Never take tea, coffee, beer, wine, or any spirituous liquor.

In order to secure healthy digestion, food should be eaten slowly. Those who wish to avoid dyspepsia, and those who realize their obligation to keep all their powers in a condition which will enable them to render the best service to God, will do well to remember this. If your time to eat is limited, do not bolt your food, but eat less and masticate slowly. The benefit derived from food does not depend so much on the quantity eaten, as on its thorough digestion; nor the gratification of taste so much on the amount of food swallowed, as on the length of time it remains in the mouth. Those who are excited, anxious, or in a hurry, would do well not to eat until they have found rest or relief; for the vital powers, already severely taxed, cannot supply the necessary digestive fluids. When travelling, some are almost constantly nibbling, if there is anything eatable within their reach. This is a most pernicious practice. If travellers would eat regularly of the simplest and most nutritious kinds of food, they would not experience so great weariness, nor suffer so much from sickness.



ULTRA-VIOLET rays have now been established as a specific in the treatment of rickets in children. Rickets is by no means a modern disease, although it is only within comparatively recent years, that much research work has been done on the subject.

An ancient Roman physician Soranus Ephesius who lived about 1,800 years ago made reference to the prevalence of the disease in Rome. It is known also that the hygienic conditions of the poorer Roman people were very bad at that time. Rickets was not described as a specific disease, however, until 1650; and much later, toward the end of the nineteenth century, Sir William Osler described the disease more fully.

The essential cause of rickets is undoubtedly lack of sunshine. The body is unable to lay down sufficient calcium phosphate in newly formed bone, with the result that the bone is

ROY CHARLTON, L.P.M.E.,
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unable to produce sufficient vitamin D to maintain the phosphorus content of the blood, with the resultant inefficient calcification of bone.

Rickets also develop in children whose diet does not contain enough vitamin D producing foods. Exposure to some source of ultra-violet radiation and adjustment of diet will cure rickets. General irradiation of the whole body with a mercury vapour lamp has been found to be a satisfactory mode of treatment.

TREATMENT OF LUPUS

Of the adult diseases which can be treated with ultra-violet rays, lupus and other forms of skin tuber-

fected area and to the skin around.

Not all cases of lupus respond to ultra-violet treatment, but in combination with medical and, if necessary, surgical treatment, results are very good. Treatment must, however, be persevered with over a fairly long period.

OTHER FORMS OF TUBERCULOSIS

In other forms of tuberculosis, ultra-violet irradiation has its widest use. Where exposure to natural sunlight is not possible, treatment with ultra-violet rays produces satisfactory results. The type of lamp used and the periods of treatment depend upon the patient's general condition and the form of tuberculous lesion present.

As with the treatment of lupus, the treatment of tuberculosis lesions is a lengthy business. Patience and perseverance are absolutely necessary if good results are to be ob-

THE USE OF

ULTRA VIOLET and INFRA-RED RAYS

imperfectly calcified and is easily bent and distorted.

This failure of the body to produce sufficient calcium phosphate is due to an alteration of the normal proportion of calcium and phosphorus in the blood. The lack of phosphorus in the blood is due to an inadequate supply of a substance known as vitamin D.

SOURCE OF VITAMIN D

It is not known, however, exactly how vitamin D maintains the phosphorus content of the blood. Vitamin D is present in varying amounts in the following substances: most animal fats, human milk, and in large quantities in halibut and cod liver oil. It is also formed in the skin when the body is irradiated with ultra-violet rays. Bodies which do not get sufficient irradiation with ultra-violet rays, or sunshine, are

closely related to the development of tuberculosis are perhaps the most amenable to treatment. Outstanding success has been achieved in the treatment of this group of diseases. Lupus was the first disease to be treated by actinotherapy. When Professor Niels Finsen commenced treatment with ultra-violet rays he no doubt chose lupus to start with, owing to its prevalence and its resistance to the more orthodox forms of treatment. When the lesion is diagnosed early and treatment begun at once the prognosis is good. Very advanced cases, however, are still practically incurable.

Treatment consists of general and local irradiation. For the general irradiation, a carbon arc or mercury vapour lamp may be used. For the local irradiation, however, treatment is satisfactory only when special lamps, such as the Kramayer, Finsen, or Finsen-Lomholz type is used. The local treatment is given to the af-

tained. Ultra-violet rays are also used, with varying results, in the treatment of skin diseases. Not all skin diseases respond to ultra-violet treatment, indeed some are made worse by its application. Usually the application of the rays to the part affected is sufficient, but general irradiation may be given as a tonic measure.

ULTRA-VIOLET RAYS NOT A "CURE-ALL"

We have outlined only a few of the diseases which may be treated with ultra-violet rays. It should be understood that ultra-violet rays are not a "cure-all." They are, however, of immense value in medicine and surgery; and in some cases treatment with ultra-violet rays succeeds where more orthodox treatment fails. Ultra-violet radiation can be used to its best ability in co-operation with

other physical forms of treatment. Massage, hydrotherapy, and other forms of medical electricity in conjunction with ultra-violet radiation invariably produce good results.

INFRA-RED RAYS— THEIR USE

Much has been written about these rays, and as was the case with ultra-violet rays, fantastic claims have been made. But infra-red rays are no more a "cure-all" than are ultra-violet rays. There is no doubt, however, that in certain cases, the application of infra-red rays alleviates pain.

Infra-red rays may be used whenever heat is required in the treatment of any specific disease. In many cases, the infra-red ray radiation is combined with ultra-violet ray radiation, and in other cases it is combined with massage and other physio-therapeutic measure. The fact that infra-red rays produce a hyperæmia of the skin, makes them a valuable preliminary to most forms of electric treatment and massage.

It has been found that since infra-red rays are capable of increasing oxidation and phagocytosis in the body, and of increasing the circulation in the area irradiated, they can be ap-

plied in cases of acute inflammation and pain.

Infra-red rays, in the hands of inexperienced persons, are not so dangerous as are ultra-violet rays. Burns may result from excessive radiation, and if the radiation is grossly excessive, heat stroke may be produced.

Tremendous progress has been made in the field of ultra-violet radiation and infra-red radiation, since scientists first discovered that there was some form of energy beyond the visible light part of the spectrum. How thankful we should be that man has been able to produce this energy artificially for the benefit of the human race.

my MESSAGE

to young

WOMEN

THE following letter forms the basis for "My Message to Young Women." The letter was written by a young woman who was desirous of obtaining some dependable information in regard to the use of cigarettes by women.

Dr. D. H. Kress,

Dear Sir:

I am writing to ask if you have a pamphlet dealing with women and cigarettes. Two of my friends and I are rather interested in this subject. The one friend is a married woman of about thirty-five years of age, and is childless. The other is twenty-eight years old, and never intends to marry. I myself am thirty. We are all modern young women, and have been taking an occasional drink and are smoking from twenty to thirty cigarettes each day as a matter of course.

Naturally, I am much more interested in the effect smoking is having, or will have, on me than I am in what it might do to the other two. They never intend to have children, but some time in the more or less distant future, when conditions permit, I am going to marry, and I do want babies. (Maybe I'm not so very modern after all.)

So, if it wouldn't inconvenience you so very much, I would appreciate it if you would send me any pamphlet or pamphlets that you have. Thanking you in advance for your kindness and courtesy.

Yours very truly,
(Signature).

Since and during the World War women have gone in for cigarettes at an alarming rate. If the increase keeps on at the present rate, it will not be long until there will be more women smokers than men smokers. Certainly it is time to give thought to this matter and if possible ascertain what effect this will have upon the future of our race.

It is generally recognized that the nervous system of a woman, being more sensitive and more delicate than that of a man, is more easily damaged by the use of narcotics.

Dr. Richardson, in a book entitled *Diseases of Modern Life*, made the statement some years ago when smoking among women was seldom witnessed. "If a community of youth

The Effects of Smoking on Childbirth

D. H. Kress, M.D., Neurologist

of both sexes whose progenitors were finely formed and powerful, were trained to the early practice of smoking, and if marriages were confined to smokers, an apparently new and physically inferior race of men and women would be bred." He said, "Such an experiment is impossible as we live; for many of our fathers do not smoke, and scarcely any of our mothers, and so chiefly to the credit of our women, be it said, the integrity of the race is fairly preserved."

In regard to women taking up with this habit, Dr. Hugh S. Cumming, former United States Surgeon-General, said:

"The cigarette habit indulged in by women tends to cause nervousness and insomnia. If American women generally contract the habit, as reports now indicate they are doing, the entire American nation will

suffer. The physical tone of the whole nation will be lowered. This is one of the most evil influences in American life today. The number of American women who are smoking cigarettes is amazing. The habit harms a woman more than it does a man. The woman's nervous system is more highly organized than the man's. The reaction, therefore, is more intense, ruining her complexion, causing it to become gradually yellow and ashen."

Several years ago I called upon the famous scientist Dr. Alex Carrell at the Rockefeller Institute, New York City. I was anxious to obtain information in regard to the tissue from the heart of a chicken which it was reputed he had kept alive for over twenty years. He took me to a large vault in his laboratory, maintained at body temperature, in which he kept the small flasks that contained this tissue. The normal life of a chicken is only from ten to twelve years, and yet here before me was a piece of tissue, just as much

alive as it was twenty years before. The secret was in supplying the tissue with its normal nutrients unassociated with impurities, and in keeping the medium in which it was bathed freed from its own wastes. Should Doctor Carrell have permitted these wastes to accumulate, or should he have introduced into this medium a small amount of cigarette smoke or alcohol daily, the tissue would have died years before. He demonstrates the biblical and scientific truth that "the life is in the blood."

It is a more serious matter for a prospective mother to be a user of tobacco than it is for a father. For nine months she should treasure and care for the developing infant within the uterus, as sacredly as did Dr. Carrell the piece of tissue in the little flask.

In the Royal Tobacco Factory, near Vienna, according to Dr. Kosstral, out of 560 births, eleven of the infants were born dead, 206 died soon after birth, and only 152 lived

to the age of one year. Of the infants born the majority died before reaching the fourth month of life.

Dr. Hofstatter, a noted physician of Vienna, tells us that women in Vienna smoke because of a superstition held by them that they are not likely to have children if they do. This belief he said was, "widespread among them especially in East Europe and in Turkey." From his own observation he said, "There is a foundation for this belief, for among many women patients who were heavy smokers there was only a single one who was not childless. The others had stopped having children when their heavy smoking began." He affirmed, "Women working in the tobacco factories in Vienna seldom have children."

The declining birth rate in all civilized countries which is being regarded with some alarm at present, is not wholly due to preventive measures employed by women. There are women who deplore the fact that they cannot bear children. The husband in some cases, it may be discovered, had been a heavy cigarette smoker for years.

Dr. Arnold Lorand, the noted author, of Carlsbad, Czechoslovakia, says, "Indeed, this pernicious influence of tobacco upon young women is, in my opinion, a matter about which we can no longer be unconcerned."

In referring to the increase of cigarette smoking among women, and its results, that popular paper known as *The London Titbits* said: "Before the outbreak of World War I, women who found consolation in the weed smoked from fifteen to twenty cigarettes a week. But not so now, for the smoking craze has made such headway that there are thousands of women at the present time who think nothing of smoking one hundred to one hundred and fifty cigarettes a week."

The editor added: "Never was there a time when babies were of such vital importance as today. Yet at this critical period, when we need strong, healthy children to fill the ranks depleted by those who have gone before, there are likely to come into the world a race of weaklings who have paid the price of their mothers' devotion to tobacco."

The propaganda carried on by the various tobacco concerns to encourage women and girls to smoke is, to my mind, one of the most destructive plots an enemy could possibly invent to destroy the human race.



THE impression seems to be quite prevalent that to live well is a costly business—a luxurious manner of life, in fact, available only to those blessed with considerably more than moderate means.

The truth is that there is a phase of this experience of living well which is within reach of the poorest. For, to live well, in the broader and more far reaching aspect of the term, is to live so that one enjoys happiness, peace, and satisfaction. The attainment of that phase of living well is a spiritual experience which is not dependent on material things, and therefore available to all. Regardless of the abundance or meagreness of the things which one possesses, he can have peace within and tranquillity with his associates. This is really living well, compared with which no amount of material prosperity, or meagre physical enjoyment can compare. But as the term is usually understood, it includes at least a modicum of bodily health; in fact it refers primarily to that state of being.

Even this blessing is not limited to the wealthy. In fact extravagance and over-indulgence of appetite and lack of physical exercise are probably responsible for almost as much failure to live well health-wise as is poverty. With the knowledge now available on the subject of healthful living, the precious blessings of health and happiness, "living well," can be enjoyed by the multitudes in moderate circumstances as well as by those more prosperous financially.

The first step in that direction is knowledge. As I have suggested, there is an abundance of scientific information on the subject of health. This article cannot undertake to do more than give a very brief hint of the possibilities.

It happens that much that is essential for, and most conducive to, the welfare of man, is very inexpensive. I said it "happens." Let us change that to, "it is a fact."

To illustrate the statement just made, the most urgent essential to physical life is air. It costs nothing. It is free—if taken pure, as it is in nature. It costs something if you prefer to have it laden with poisonous, health-destroying tobacco smoke. This may be taken as an illustration of many of man's strange habits today. It is inexpensive to obtain health; it is expensive to follow custom.

Take the water we drink, for in-

How to

LIVE WELL

J. O. WILSON

stance. Next to air, I suppose water is the most important in maintaining life and health. One can live without food much longer than he can live without water. And, like air, water is free. It comes right down from God's heaven. And, taken as it is given, it sustains life and health. But how many put into it that which destroys health, such as alcohol, coffee, and tea, and then complain about the high cost of living! Would it not be more consistent to complain about the high cost of destroying health?

What about foods? Does man follow the same inconsistent course with them? He does exactly that.

Instead of taking that which nature has provided for him from the beginning, that which grows out of God's good earth, he chooses that which custom indicates, or that for which his appetite clamours. And even when he uses that which grows out of the good earth, he tampers with it to the loss of its vitality or uses it in unnatural combinations which are harmful.

To be specific about the tampering; he feeds the bran from his rice and wheat to the bulls and the chickens, to their gain and his loss. He does the same with the peelings from his potatoes and turnips and apples, and with the same result. Or he boils the vitamins out of his rice and vegetables, and pours the precious life-giving elements down the drain and wonders at his tired feelings and lack of vigour!

To stay within the limitations already set for this article—that of giving a mere hint of the possibilities in the subject, let us suggest in the briefest outline a few more observations on diet, for it is in the matter of diet that man misses the mark most miserably where healthful liv-

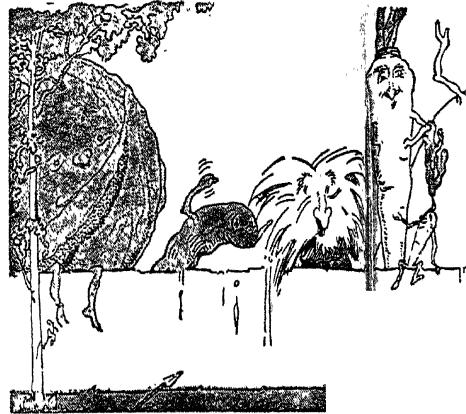
ing is concerned. A very few simple facts concerning diet and the laws of health would help wonderfully in maintaining health, and at a minimum expense.

1. *Balanced proportions.* Take right proportions of various kinds of foods. To nourish the human body requires, according to the world's best nutrition experts, a diet consisting of about 10 per cent or 15 per cent of proteins (like eggs, milk, beans, dal, nuts, meat), 15 per cent or 20 per cent fats and oils, and 65 per cent to 75 per cent carbohydrates (starch foods like rice, bread, potatoes, and sugars).

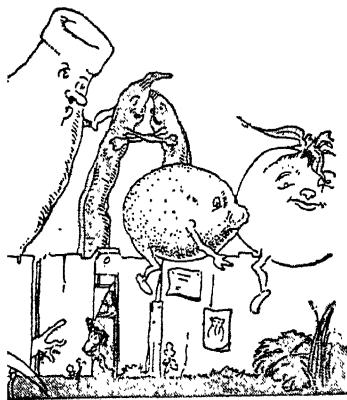
2. *Mineral elements or salts.* There are about sixteen various mineral salts in the body and proper nourishment requires that these same elements be present in the food to maintain those in the body.

3. *Vitamins.* These mysterious elements are to the nourishment of the body like the spark-plug to the motor. They give life to the food eaten.

4. *Water.* A large portion of the weight of the body is water. Plenty



ECONOMICALLY



of water should be taken into the body (between meals) to maintain the body fluids, to carry the food elements to the body cells and tissues, and to carry out body wastes.

5. *Cellulose or bulky material.* This is necessary to make elimination possible and normal.

6. *Acid-alkaline balance.* The metabolism or digestion of each food leaves in the blood a residue-ash, which is either acid or alkaline. The normal condition of the blood is slightly alkaline. Even a slight increase in the acidity of the blood upsets the health, and is in fact, a step toward death.

Now consider these six facts or rules, outlined above. What diet will best meet these requirements? Take them one by one:

1. *Balance.* Which diet provides these correct proportions of proteins, fats, and carbohydrates? If space permitted to give a few figures and tables, it would be seen very readily that to partake even moderately of flesh foods throws this balance out of order. The protein taken by meat-eaters is far too much, and has to be

eliminated from the body as waste matter. This over-works the eliminative organs—liver, kidneys, etc.—and due to poor eliminations of the poisons in such a diet, the result is Bright's disease, rheumatism, and a host of other troubles.

2. *Minerals.* Where are these found? In the things that grow out of God's good earth? Not most advantageously in flesh foods, unless you eat the bones and drink the blood, and even in vegetables, and fruits and cereals, they may be missing if we throw away the peelings and the bran, or the water in which the foods are cooked.

3. *Vitamins.* These too are found in abundance in fruits, vegetables, and nuts.

4. *Water.* No question here, if taken pure.

5. *Cellulose.* Found in leafy vegetables, and root foods. Meat fails miserably on this point and is a common cause of constipation.

6. *Acid-alkaline balance.* Here again Nature's diet has the right balance, and man's fails. Even the cereals which God gave are slightly acid-forming, especially if they are "refined" and robbed of their bran. Vegetables, fruits, nuts, and milk are the alkalinizing foods. Potatoes are alkalinizing and for that reason could well be substituted for rice. Nothing is better than fruit juices, especially the citrus fruits. Lack of proper alkaline balance makes one take cold easily. And yet we hear people say they must not eat oranges when they have a cold! Nothing is better to cure and to prevent colds than an abundance of fruit in the diet. Flesh foods are heavily acid-forming.

The question now is whether Nature's diet or man's diet is more expensive. On the whole, the diet found

in nature is most economical. Man did not invent his palate-pleasing pastries, his cold-drink concoctions, and his carnivorous curries to conserve on the cost. He developed a perverted appetite and followed that. Even if Nature's diet did cost more, it would be well worth it. But the fact is that it is less expensive.

It is not necessary to pay fancy prices for imported apples and pears and grapes, when there are local-grown bananas, oranges, limes, mangoes, etc. And one can use tomatoes instead of oranges if they are cheaper.

In some localities it may be difficult, at least in certain seasons, to get an adequate diet without using flesh foods. Under such circumstances, when it is difficult to get the best diet, one may have to do the best he can with what is available.

And one could give in a summary a corrective formula that would appreciably improve the health of many within a week, and would probably help to balance the family budget too. It would be something like this: Make potatoes the base of one meal a day instead of rice. Use the skins and brans of potatoes and all cereals and vegetables. Use milk, beans, dal, and nuts instead of meat. Leave off all fancy biscuits and cakes, sweet-drinks, sherbets, and other acid-forming concoctions, as well as tea and coffee. Drink two quarts of jar-cooled water daily, and use all the raw ripe fruits you can afford.

The principles discovered in this discussion of diet and its relation to living well and economically, will be found to apply also to other phases and departments of one's programme of living. That which is good is the cheapest regardless of the price. Novels can be bought for a pittance, but it would not be living well to fill one's library with them just because they are cheap.

Where clothing and house furnishing are concerned, the same principles apply. The gaudy, showy, clothing of the world, invented to attract attention and display pride, are not necessarily the most serviceable or the best quality. Simple attire, and simple modest furniture of good quality, are in harmony with living well and economically.

Cleanliness, tidiness, quality, with simplicity and modesty—these characteristics belong to good living, and they bring peace and happiness.

NO PIECE of machinery is so intricately complicated and finely adjusted as the human body. Yet many people who would not trust their automobiles in the hands of any but a skilled mechanic, will tinker with their own bodies when they are out of order. Or, what is equally bad, they will take a neighbour's pet prescription, though that neighbour may know nothing about the malady that needs treatment.

First of all, the untrained person is incompetent to make a reliable diagnosis. Pain in the abdomen may be due to gravel from the kidney or to gallstones or appendicitis, or it may be simple intestinal colic. Pain is a call for diagnosis, ascertaining the cause, not for a painkiller. If the pain is due to gravel, operation is not indicated; if due to simple colic from improper food, a cathartic may

be indicated. But if the pain is caused by appendicitis, cathartics are dangerous and often fatal. An ice bag may be helpful; but, after all, appendicitis needs surgery, a surgeon's diagnosis and operative skill. These, however, are only a few of the causes of abdominal pain; therefore, much knowledge and diagnostic skill are required.

Blood with the stool may be from piles, cancer, or even from ulcer or other diseases. To go to a chemist and ask for a pile cure without first going to a physician for a diagnosis may result in overlooking a cancer, and so, with ignorant self-diagnosis and self-medication, result in delay, and delay in death.

Many other examples of easy confusion of diseases without skilled examination might be given. The whole realm of disease is full of them. But the dangers of self-diagnosis are followed by the dangers of self-medication, for a large number of drugs are harmful, poisonous, and if used at all, must be used only in a very

organs or parts of the body may need to be removed, and so surgery is the rational and necessary means of treatment. Unfortunately both radium and X-ray are capable of doing harm as well as good. They are not treatments that can be given without a very careful study being made by the doctor. Nature's means of restoration are versatile, comprehensive, and, if used understandingly, are not harmful—that is, they are not intrinsically poisonous.

The great majority of drugs produce damage to one or even many parts of the body. Through the years there has been a continuous procession of these poisonous, or toxic, drugs. The medical profession has discarded them as one after another has proved more harmful than beneficial. There are still some poisonous drugs used to kill parasites, intestinal worms, and so forth, that may have to be used because no other ways of ridding the body of them are known. However, many common infections such as pneumonia, influenza, bron-



Fraudulent advertising has no limits to its bogus claims.



restricted field, often only for a single disease.

This phrase "the practice of medicine" is, of course, an old one, and comes from the days when medicine was considered the chief means of treatment for the sick. It still clings, though it has well outgrown its name. Today of far greater importance and greater benefit, without poisonous effects, are the use of hydrotherapy (hot and cold water in various ways), fresh outdoor air, sunshine and sun lamps, massage and electricity, with rest or exercise as indicated at the time. Collectively these means are known as physical therapy, and are now beginning to be taught in regular medical schools. Of course vaccines, serums, antitoxins, ductless-gland extracts, and vitamins are all nature's own means, and, therefore, are physiologic and rational when appropriately applied. Some diseased

chitis, the common cold, blood poisoning (lymphangitis), arthritis, and rheumatism are all helped by hydrotherapy, and in some instances with much quicker recovery than by drugs alone. Hydrotherapy produces no damage to any part, organ, or function of the body. A brief survey of drugs once popular and of those now in vogue will show how their supposed benefit has nearly always been because of insufficient knowledge.

For many years strychnine was regarded as a valuable stimulant and tonic, often combined with iron and quinine, and was given for all sorts of run-down conditions. It was considered a specific for surgical shock and heart emergencies. In 1903 Dr. George W. Crile, after most extensive animal experiments, wrote: "After giving the strychnine, the animals not yet in complete shock, always passed into a deeper degree of shock.

In any degree of shock, after the administration of a therapeutic dose of strychnine, the animals passed into deeper shock. Later in the research it was found that the most convenient and certain method of producing shock for experimental purposes, is by the administration of physiologic doses of strychnine." Another noted medical authority has said, "Dosing with strychnine to the heart is like kicking a dying horse when he is down."

Quinine is nearly a specific in destroying the malarial parasite, and is successful in the great majority of cases. Its wide use in colds and pneumonia is, however, never justified; and in all germ infections it is highly detrimental. It damages, paralyzes, or destroys the white blood cells, which are our chief means of protection in by far the majority of infectious diseases. Elie Metchnikoff, the great Russian bacteriologist, says: "But it is not only opium and alcohol which hinder the phagocytic (germ-destroying) action. A number of other substances regularly employed in medicine cause the same results. Even quinine, the... effect of which in malarial fevers is indisputable, is a poison for the white blood cells. One should...

aches, and as pain relievers. Fever is lessened by the poisonous action of these drugs on the heat centres, and the processes of oxidation in the body. They depress the heart action. They cause breaking up of the red blood cells, and damage the haemoglobin, so that it cannot carry the necessary amount of oxygen from the lungs to the tissues of the body. The blood-forming organs are also damaged, so that the white blood cells, which protect us against acute infections, are diminished, germs multiply rapidly, and illness with fever results. The harmfulness of these medicines (acetanilide, phenacetin, and amidopyrine), at one time sold widely as headache relievers, is now well known to physicians.

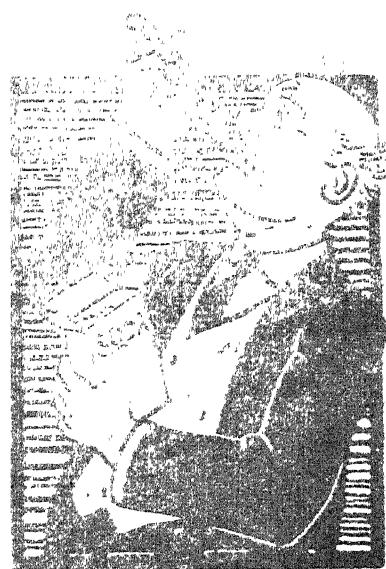
Next, after the earlier coal-tar drugs, came a whole group of pain relievers recommended for rheumatism and arthritis. The most widely used of this class was atophan, but they all contained cinchophen or some derivative. After a few years cases of hardening of the liver (cirrhosis), from the poisonous action of these drugs, began to be reported. Then came reports of cases of acute degeneration of the liver, most of which were fatal.

Barbital was introduced in 1903, and the barbituric-acid group of drugs is widely used. They are all sedative or nerve quieters and sleep producers. There are forty or more on the market under all sorts of names. Among these the amytals are

accident.... Many reports of chronic poisoning are finding their way into literature, owing to the fact that elimination of the drug is slow, and cumulative effects are prone to arise."

Barbital is definitely habit forming. Dr. Work reported one hundred cases of barbital poisoning seen at the Denver General Hospital and in his private practice in three years. He concluded that "barbital is a danger to the community without restriction of its sale."

For a number of years obesity cures have either been wholly a



Even such a common chemical as sodium bicarbonate is used by many to their physical detriment.

fraud, that is, having no effect whatsoever, or they have contained thyroid extract. This gland product is legitimately used where the patient's thyroid gland is deficient. In all cases medical tests should be made to determine such deficiency. If used where no such deficiency exists, it may do untold harm.

Introduced by prontosil, an almost endless variety of sulfa drugs has followed. But they must be administered under very careful supervision, else they can produce damage to many different organs and functions of the body. The most frequent damage has been the destroying of the white blood cells, which protect the body from bacteria. Children are especially susceptible to this damage to the white blood cells. Along this line, a most notable result in the armed forces of the second world war was that the germs acquired a marked resistance to the drugs so that their use a year or two



avoid as far as possible the use of all sorts of medicaments, and limit oneself to the hygienic measures which may check the outbreak of infectious disease."

Arsenic was long used, and is still used, by some for anaemia. The fact of the matter is that it produces anaemia by damaging the blood-forming organs.

Forty years ago coal-tar medicines were much used for fevers and head-

wides used. They are not the harmless sleeping potions they are supposed to be. Actual damage in the brain and nerve tissues occurs, and many disabilities and distresses result, not the least of which is a mental depression and hopelessness occurring with prolonged use. Dr. Webster in 1930 wrote: "As was to be expected, many cases of untoward effects or actual poisoning arose as a result of over-dosage or

later had little or no effect in destroying certain strains of streptococci. The kidneys also can be damaged by sulfa drugs. Certainly these are not drugs to be used in self-medication. They are far too dangerous for this.

Penicillin is much less harmful than sulfa drugs; but after a time bacteria, which it usually destroys, become accustomed to it and acquire a resistance to the drug. This has also been reported by physicians working among soldiers and sailors in the second world war. The promiscuous and frequent use of throat lozenges containing penicillin or other antibiotic drugs has produced serious vitamin-deficiency diseases. This is because, besides destroying disease germs, it also destroys the "friendly germs" such as the Bulgarian bacillus and other lactic-acid-producing germs in the intestinal tract. These germs, in the intestines, help produce vitamin B complex.

"All along the history of medicine, the really great physicians were peculiarly free from the bondage of drugs." This was written in connection with medical comments upon Sir William Osler's book on the *Practice of Medicine*. Through numerous editions this book easily held first place in the libraries of American physicians.

On the occasion of the fifteenth anniversary of the founding of Johns Hopkins University, Dr. Osler gave the principal address, entitled "Recent Advances in Medicine." Among other things, he emphasized, as one great advance, the diffusion among the public of more rational ideas concerning the treatment of disease, stating as an interesting psychological fact that "the desire to take medicine is perhaps the greatest feature which distinguishes man from animals."

Continuing, he declared: "Of one thing I must complain—that, when we of the profession have gradually emancipated ourselves from a routine administration of nauseous mixtures on every possible occasion, and when we are able to say, without fear of dismissal, that a little more exercise, a little less food, and a little less tobacco and alcohol, may possibly meet the indications of the case—I say it is a just cause of complaint that when we, the priests, have left off the worship of Baal, and have deserted the groves and high places, and have sworn allegiance to the true god of science, that you, the people, should wander off after all manner

of idols, and delight more and more in patent medicine, and be more than ever in the hands of advertising quacks. But for a time it must be so.

This is yet the childhood of the world, and a supine credulity is still the most charming characteristic of man."

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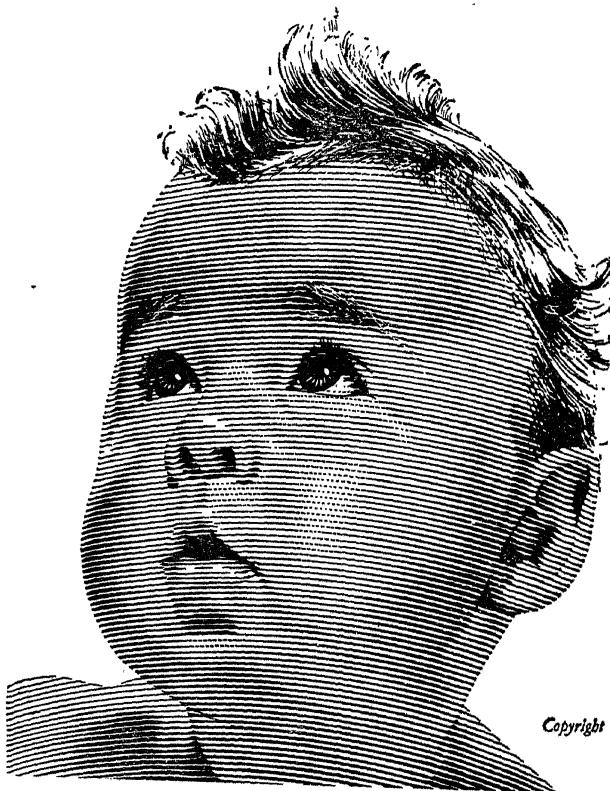
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"Straw—" Dickon started to call. But a rough hand over his mouth silenced him.

They had now come into the circle of light. A tall man, rather handsome in his green clothes, sprang to his feet. "What have we here, my merry men?" he demanded.

"Good captain," said the man who held Dickon's arm, "we have brought you two prisoners. But I doubt whether there be any profit in them."

The chief looked at the trembling children and asked, not unkindly: "Where is the goodman, your father, that you babes are wandering in Sherwood Forest after nightfall?"

"Alas, sir," answered Dickon, "our father lies under his stone in the churchyard. Prince John has taken all we had for taxes—all but our tiny house and our cow, Strawberry. Our mother raises turnips in our rocky little yard, and washes clothes for the gentlefolk. We children gather wood for her and pasture the cow. This evening we let Strawberry stray away. And I know not what mother will do. If that is our cow we hear mooing I pray you to give her back to us."

"Boldly spoken, young lout!" exclaimed the outlaw chief. "Are you not afraid to tell me what to do? Can you guess who I am?"

"Aye, sir! That is why I dare to speak. You are Robin Hood, the outlaw who never robs the poor, nor does harm to woman or child."

"Right you are!" laughed the tall man. "Bring these children food, my men. Then take them and their cow back to the edge of the forest, so that they may go home in safety."

Before another hour had passed, Dickon and Edith, driving Strawberry before them, came back to their cottage gate. Their mother, too frightened to be angry, ran to meet them. She listened, thunderstruck, as they told their story.

"Mother," asked little Edith, "is Robin Hood really wicked? He let us have Strawberry back, when we told him we were poor and fatherless. Would a wicked man do that? And he gave us good bread for supper. See, I have brought some home for you! Tell me, is Robin Hood bad?"

"Oh, my child!" cried the mother. "Who am I to judge? He has restored my babes to me, safe and well. He has sent back the cow we depend on for half our food. Men say this outlaw and his band rob only the rich and are kind to the poor. That is all I know."

ROBIN HOOD RETURNS THE COW

WINTA M. ARMSTRONG

"WE MUST go home!" cried the little girl. "We dare not go any farther into the forest."

"I hate to go home without Strawberry," said the boy.

"But, Dickon, the trees grow thicker. I am afraid! Let's call Strawberry again, and then turn back."

"Come on a little way, Edith," urged her brother, "and we'll call as we go."

They pressed on into the darkening woods, calling, "Strawberry! Co' bossy!"

Soon Dickon was calling alone. His little sister was too frightened to speak. Dickon knew that they must turn back, even though there would be only dry bread for supper, with no good milk to dip it in. And mother would scold them for letting Strawberry out of their sight. They had been busy gathering faggots, but they should have watched the cow more carefully. Very often Strawberry's rich milk was all that kept them from being hungry.

These were hard times for the children and their mother; but then they were hard times for all poor folk, with King Richard away in the Holy Land, and his cruel brother Prince John, lording it over England.

"Come, Dickon," Edith whispered faintly. "The woods grow darker around us. I am afraid—"

She did not finish. At that moment they found themselves surrounded by a group of men, all dressed in green.

"Outlaws!" whispered Dickon. "Shut your eyes and pray! I will talk to them."

And, frightened as he was, he spoke up bravely: "Good sirs, have you seen a cow wandering in these woods—a white cow with reddish spots? We call her 'Strawberry.' If we do not find her, we shall have but little to eat this night."

The outlaws spoke to each other in undertones. Then one of them addressed the children:

"Come with us, little ones. We must take you to our chief. Have no fear. We are pledged never to harm woman or child."

"Dickon, come on—quietly!" said Edith, in a low voice. "Don't make them angry."

Dickon knew she was right; resistance would be worse than useless. One of the outlaws grasped his arm. Another took Edith by the hand. And so they walked on and on, into the deep gloom of the forest.

At last they saw a gleam of light through the trees. Before long they came to a glade, where a cheerful bonfire glowed. Seated on the ground around the fire were other men in Lincoln green. From somewhere in the shadows back of them sounded the prolonged "Moo-oo!" of a cow.

"I'm going to pray God to forgive Robin Hood," said Edith. "And you'd better too, Dickon. He was good to us, and that's something we can do for him."

"Of course I'll pray for him!" Dickon told her. "I thought of that quite a while ago."

Years passed. At last King Richard, the crusader, returned to England. Edith and Dickon were glad when they heard that he had pardoned Robin Hood, the outlaw who never harmed woman or child.

Genes Seen

Two United States scientists say they have seen and photographed genes—the mysterious infinitesimal entities that determine physical characteristics and transmit them from one generation to another. The existence of genes was indicated in sweet-pea breeding experiments of Johann Gregor Mendel, Austrian naturalist, a century ago. The recent visual observation is expected to be important in medical and biological research, particularly in connection with germs and viruses—the micro-organisms that cause diseases.

Dr. Daniel C. Pease and Dr. Richard F. Baker, of the School of Medicine of the University of Southern California, at Los Angeles, described the genes as thin, double-pointed, "spindle-shaped" particles 1/100,000th of a centimeter long and 1/1,000,000th of a centimeter wide.

The observations were made with a standard electronic microscope on thin cross-sectional slices of animal tissue obtained by a new cutting technique which Pease and Baker discovered and developed some months ago. They hardened the tissue specimen with paraffin and collodion, air chilled by dry ice. By using new methods to adjust the cutting blade, the scientists report, they obtained slices only about 1/250,000th of an inch thick. This permitted, for the first time, the penetration of electrons needed to show the genes.

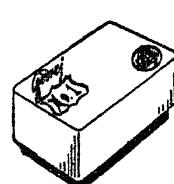
Genes are carried in larger bodies called chromosomes. In these experiments, chromosomes of the fruit fly were used because they are relatively large. The tissue sections were magnified 120,000 times. The genes appeared almost as specks, so small that special photographic printing techniques were required to reproduce them.—USIS.

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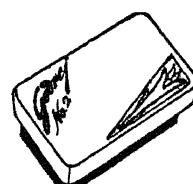
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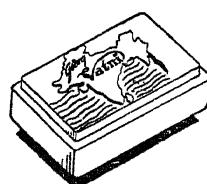
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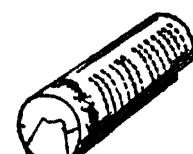
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THE VITAMIN B COMPLEX

MUCH is said and written these days about vitamin B complex; thiamine, riboflavin, niacin, and about six other vital food elements enter into it. Of these thiamine seems to be the most important. A deficiency of thiamine will cause nervous instability, constipation, flatulence, indigestion, and chronic fatigue. This vitamin is very essential to the growth of children. Because it is not stored in the body, it is necessary to eat food rich in this vitamin daily. Whole wheat, whole milk, greens, especially turnip greens, green peas, soy beans, and yeast preparations like Vegex or Marmite are rich in this substance called thiamine.

Riboflavin, the next important substance in the B complex is found in milk, eggs, green leaves, yeast, wheat germ and lean meat. It is essential for efficient utilization of starches and sugars and for carrying oxygen to all the cells of the body. Plenty of green leafy vegetables with legumes and milk are the chief sources of this very essential element.

Niacin also is found in milk, eggs, fruit, fresh green vegetables and bean sprouts. The recipes given in the "ORIENTAL WATCHMAN AND HERALD OF HEALTH" are rich in vitamins and minerals. Be sure to try them; you will like them.

HOME-MADE NOODLES

One cup whole wheat flour; 1 egg; salt to taste.

Break the egg into a bowl and whip it lightly. Add a little salt and sift the flour into this a little at a time; as much as it will take to form a rather stiff dough. Place this on a floured board and roll out very thin. Let it dry out a little, then roll it up and cut it into narrow strips. Have six cups of boiling water ready and drop the noodles into it. Cook for ten minutes. Drain and prepare the following sauce.

Two and a half tablespoonfuls of fat; 2 tablespoonfuls chopped onion; 3 tablespoonfuls chopped capsicum; 2 teaspoonsfuls Marmite or Vegex; 2 eggs, slightly beaten.

Saute the onion and capsicum in fat until slightly brown. Add the egg and stir until done a little. Add the Marmite dissolved in a little water. Stir all together. Place noodles in a baking dish. Pour over them the sauce and bake in hot oven fifteen minutes. Serve at once. Serves four or five.

VEGETABLE LOAF

One cup string beans cut fine; $\frac{1}{2}$ cup diced carrots; $\frac{1}{2}$ cup celery cut fine; $\frac{1}{2}$ cup cooked rice; 1 egg, beaten; 3 tablespoonfuls butter; 3 tablespoonfuls chopped nuts; $\frac{1}{2}$ cup white sauce or cream; $\frac{1}{4}$ cup bread crumbs; salt to taste; $1\frac{1}{2}$ cups boiling water.

Cook beans in boiling water five minutes then add carrots and celery and continue cooking until done (the water should be all gone). Add the other ingredients and mix well. Pour into but-

tered baking dish and bake in hot oven until light brown. Serves four to six.

SPINACH NUT RING

Two cups cooked greens, chopped; 2 eggs beaten; $\frac{1}{2}$ cup chopped nuts; $1\frac{1}{3}$ cup bread crumbs; salt to taste.

Mix all ingredients. Bake in well-oiled ring mould for twenty minutes or until firm. Turn out on a serving dish and fill centre with boiled diced carrots or flowerets of cauliflower, both of which should be seasoned with butter. Serve hot.

RAINBOW SALAD

Half cup grated cucumber; $\frac{1}{2}$ cup grated cabbage; $\frac{1}{2}$ cup grated carrots; $\frac{1}{2}$ cup grated beets; $1\frac{1}{8}$ cup olive oil; $1\frac{1}{8}$ cup lime juice; $\frac{1}{2}$ teaspoonful sugar; $\frac{1}{4}$ teaspoon salt; 8 large lettuce leaves.

Arrange the lettuce leaves on a platter. Place a white strip of cabbage in centre, and on either side of the carrots and beets. Pour over the dressing made of oil, lime, sugar and salt. Serve very cold.

BEAN SPROUT SALAD

Two cups steamed and chilled bean sprouts with beans; $\frac{1}{4}$ cup salad oil; 2 tablespoonfuls lime juice; 2 tablespoonfuls grated onion; 1 head lettuce; 1 capsicum chopped fine; 1 teaspoon salt.

Steam or boil sprouted beans ten minutes. Skim off husks that rise to surface while boiling. Drain and chill. Make a dressing by mixing oil, lime juice, salt and a little of the onion. Rub the salad bowl with garlic, or soak crushed garlic in the lime juice if desired. Toss together the remaining onion, the capsicum and bean sprouts. Place on lettuce leaves and serve very cold. Serves six.

PLANTAIN AND NUT SALAD

Three well-ripened plantains; $\frac{1}{2}$ cup chopped nuts; 6 lettuce leaves; juice of one lime; $\frac{1}{4}$ cup cream beaten stiff.

Cut plantains lengthwise; roll in chopped nuts and place on lettuce leaves. Mix lime juice and cream and place a little on each plantain. Makes three large, or six small salads.

CREAM PIE

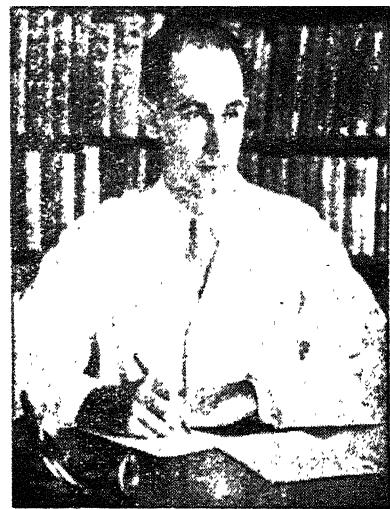
Two cups hot milk; 3 tablespoonfuls cornflour; $\frac{1}{4}$ cup sugar; $\frac{1}{4}$ teaspoonful salt; 2 eggs separated; 1 teaspoonful vanilla; 2 tablespoonfuls sugar.

Mix cornflour, sugar and salt, then add to milk, slowly stirring all the time. Cook over hot water 20 minutes. Beat egg yolk and add, stirring rapidly. Cool and add vanilla; put into a baked pie-crust. Make a meringue of the egg whites and 2 tablespoonfuls of sugar. Brown in moderate oven.

APRICOT AND PINEAPPLE JAM

Four pounds apricots chopped fine; 1 pineapple, chopped or grated; 3 large oranges, peeled and cut fine; juice of one lime.

Measure combined ingredients and use $2\frac{1}{3}$ as much sugar as fruit. Cook until very thick (about $1\frac{1}{2}$ hours). Stir often to prevent burning. This jam will keep if put in sterilized glasses.



DOCTOR SAYS

1. This question and answer service is free only to regular subscribers.

2. No attempt will be made to treat disease nor to take the place of a regular physician in caring for individual cases.

3. All questions must be addressed to The Doctor Says. Correspondence personally with the doctor is not available through this service.

4. Questions to which personal answers are desired must be accompanied by addressed and stamped envelopes. Answers cannot be expected under one month.

5. Make questions short and to the point. Type them or write them very clearly.

6. Questions and answers will be published only if they are of such a nature as to be of general interest and without objection, but no names will be published. Address "The Doctor Says," ORIENTAL WATCHMAN AND HERALD OF HEALTH, P. O. Box 35, Poona 1.

FASTING: Ques.—"Is fasting good for the health? I am twenty years old and want to know if it will be beneficial for me to fast once a month?"

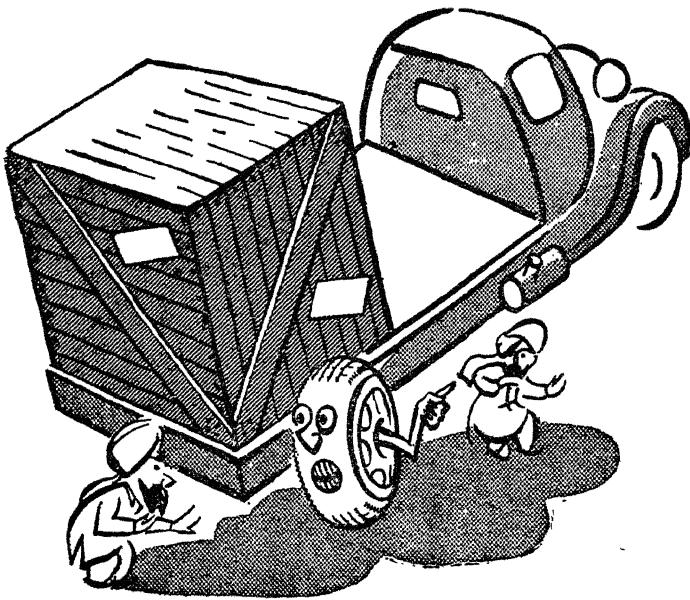
Ans.—Fasts have been prescribed as religious duties, as signs of mourning, as aids in obtaining unusual clarity of mind when doing some difficult mental exercise, and as an aid to health. Now the human body is designed with such reserves of energy that it can endure fasting for some time, but it functions best when supplied regularly with nourishment in proper amount and kind. In summary, fasts are of benefit to the health only when they correct some indiscretion of the individual in overloading his digestive system with too much food, the wrong kind of food, or contaminated food.

BALDNESS: Ques.—"We are four brothers, the eldest and the third both have thick growths of hair but the second and the youngest are both bald and have been so since the ages of seventeen and twenty respectively. Is this baldness hereditary? I have tried many remedies but without result."

Ans.—Bald heads seem to run in families and in spite of all the hair tonics, hair restorers and other tonics, procedures and such, the hair continues to fall and baldness or thinning of the hair takes place. The treatment I recommend has nothing to do with the falling hair: 1. Wash your hair and scalp often enough to keep it clean.

2. Apply an oil dressing if you like.
3. Do not worry about the falling hair. At the age of sixty-five you will have the same amount of hair after following this treatment as after purchasing the most expensive hair tonics and restoratives. Greying of the hair, either prematurely or with age, seems to be a process over which man has no control.

There is no medicine or treatment which will cure grey hair. From time to time articles or notices appear in popular magazines or the newspapers declaring that science has now found the cure for greying hair. Several years ago a substance was found which cured grey hair in the rats being used for experiment, but many grey-haired people were greatly disappointed to find that this substance was not effective for changing the colour of grey hair in humans. The so-called cures advertised in the papers are best avoided. Dyes may be used but to be effective they must be used repeatedly.



FAIR SHARES

I'm proud of my strength, but you can't expect me to do all the work, while my front colleagues get off lightly. If you'll just see that the load is carried fair and square between the four of us, I'll act fair by you, and keep running longer.

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SCORPION STING: **Ques.**—“Is there any really effective treatment for scorpion sting which gives relief in about half an hour? I find that while some persons are hardly affected by these stings others become very ill and remain so for twenty-four hours.”

Ans.—The scorpion's poison is injected under the skin with a “natural syringe” the scorpion carries in its tail. Any medicine is more effective if it is injected at the site of the sting. Sterile soda bicarbonated solution and local anaesthetic solutions are commonly used for this purpose. There are a number of scorpion sting medicines on the market but their effectiveness is not great compared to the effect of an injection.

HISTAMINE HEADACHE: **Ques.**—“I have found that I suffer from histamine headache. Kindly let me know how I may be cured.”

Ans.—Histamine headaches are usually treated by giving the patient one of the new antihistamine preparations or by injecting small doses of histamine to bring about desensitization. Either of these treatments should be administered by a competent physician.

CORNS: **Ques.**—“My grandfather has a painful corn on the underside of his heel. He has tried various treatments but it is still so painful that it prevents him from walking. What should we do for him?”

Ans.—Corns on the sole of the foot may be due to some bony irregularity of the foot such as a “spur” on the heel or to a flattened metatarsal arch. Sometimes the corn overtires a skin growth such as a wart. Many of these can be controlled by applying medicines which soften the corn and make it easy to pare away, or by arranging small felt pads on the foot so that pressure over the corn is relieved. More severe and persistent corns may require surgical attention.

PHARYNGEAL HYPERESTHESIA: **Ques.**—“Four years ago I had my tonsils and adenoids removed and since that time I have been troubled with a bad throat. The doctor says I am suffering from pharyngeal hyperesthesia. Can you suggest any treatment that can give me permanent relief?”

Ans.—Hyperesthesia of the throat (pharynx), is not actually benefited by taking medicines. One should have a careful examination to be sure there is not some chronic infection or inflammation of the nose or throat, as often a chronic sinusitis causes an irritable throat. If there is no such local irritation, a general hygienic programme of living coupled with omitting all forms of tobacco and alcohol, relieves the throat of outside irritation. Some people find that gargling the throat with hot salt water (half a teaspoonful of salt in a glass of hot water) gives added comfort.

DRY SKIN: Ques.—“My mother is forty-eight years of age and is suffering from a dry skin; that is, her skin is so dry sometimes that it irritates as though insects were biting it. We have tried certain oils but they have had no effect. Kindly suggest some medicine or oil which will make her dry skin oily.”

Ans.—Sometimes dry skin is the result of lack of activity of the thyroid gland. Your mother should consult a competent physician as to whether it would be advisable for her to take thyroid. She should not take it except under a physician's direction for it is a dangerous substance to take except under medical supervision.

CHOLESTEROL: Ques.—“Please let me know what 'cholesterol' is and how we can avoid taking too much in our diet.”

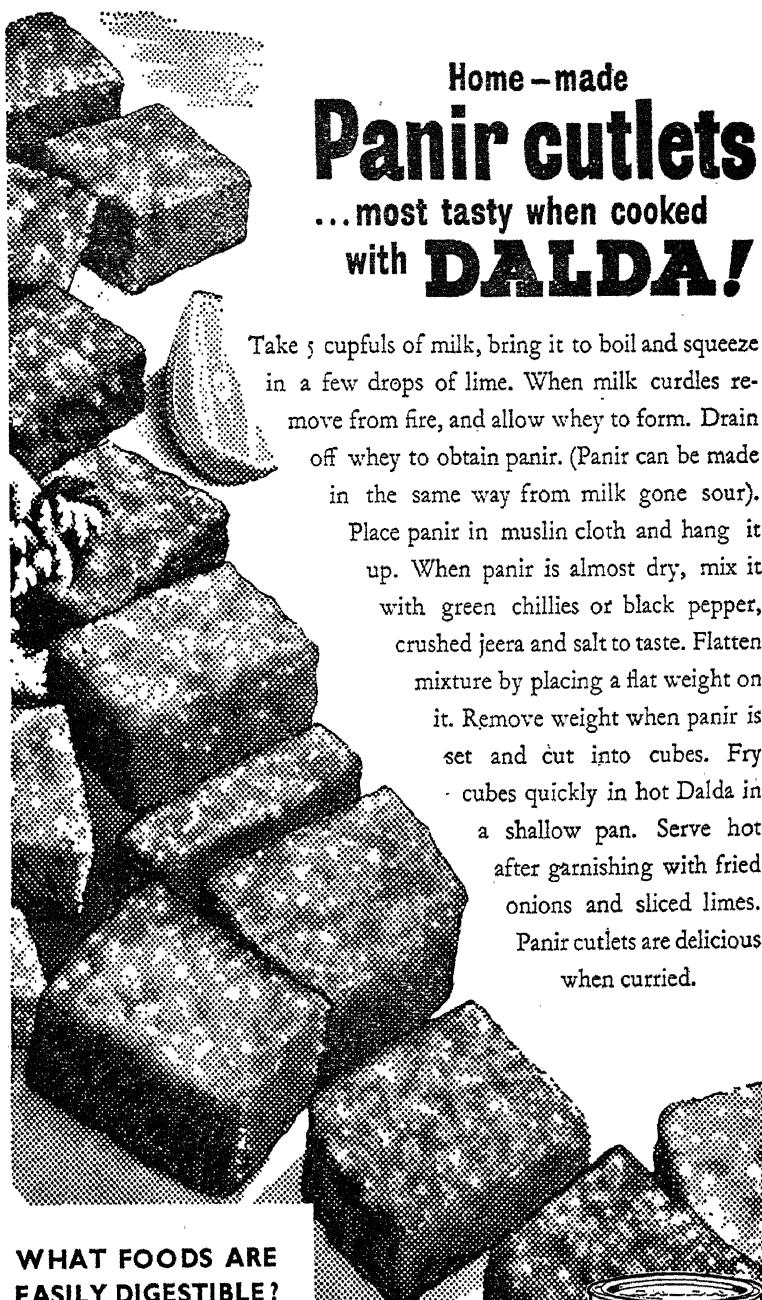
Ans.—Cholesterol is a complex organic chemical which is a vital constituent of all cells of the body. Cholesterol is necessary to normal health and normal functioning of the body. But because certain pathological substances are rich in cholesterol (i.e. certain types of gall stones and the atheromatous deposits in the walls of arteries in hardening of the arteries), some people have become alarmed about it and written articles which have led some to think that this substance is very harmful and to be avoided. Actually a person who takes plenty of fruits, vegetables, whole grain cereals, leaves, milk and nuts, in his diet, need not worry about getting too much cholesterol in his food. The only one who need worry is some hypothetical individual who eats large quantities of meats, whole milk cheese, butter, fish roe and egg yolk to the exclusion of the articles above mentioned. Such a person's diet would be out of balance in many other ways than just because he was getting too much cholesterol.

PAINFUL MENSTRUATION: Ques.—“My wife suffers from monthly period pains which are sometimes unbearable. She has tried many native and English medicines and has been examined by doctors but has not been cured of her troubles. What more can be done for her?”

Ans.—Dysmenorrhœa (painful menstruation) is quite common and the

causes are numerous. Many women and girls find that bending and twisting exercises taken every day, even during the menstrual period, help to lessen the discomfort. Others require careful medical attention and some require surgery. Often the pain ceases after the birth of a baby. For the otherwise healthy woman or girl who experiences pain at the time of menstruation the following exercises are helpful. They should be

done every day including the days of the menstrual period. 1. Floor polishing. Kneel on “all fours.” Swing right arm with elbow stiff, through a semi-circle as if polishing the floor, reaching as far forward and as far back as possible. Repeat swing ten times with each arm. 2. (a) Bending. Stand with feet apart. Stretch arms above head, and bend forward and touch ground with knees straight. Return to first position. Re-

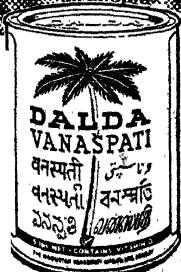


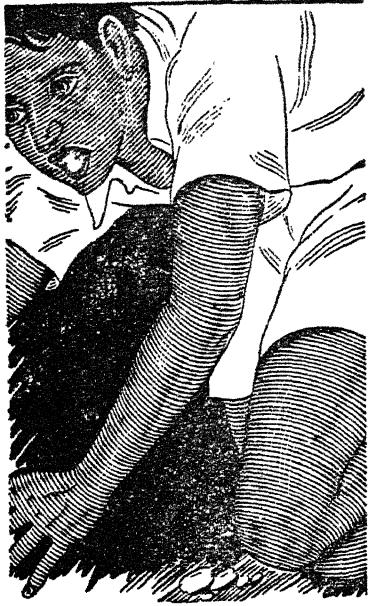
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peat slowly eight times. (b) Twisting. Stand with feet apart. Stretch arms to side on level with shoulders. Twist trunk round until right arm points directly backward. Twist again until left arm points directly backward. Repeat vigorously ten times. (c) Swaying. Stand with feet apart. Stretch arms above head. Sway body and arms to right then left. Repeat slowly ten times. 3. "Rowing." Sit on floor with knees straight and feet pressed against wall. Lean forward and touch wall with knuckles, allowing knees to bend slightly. Repeat rhythmically twenty times. 4. Right to left and left to right. Stand with feet apart. Swing right arm up as far as possible. Bend down bringing right arm over and touch left foot. Repeat six times. The same with left arm and right foot. 5. Floor patting. Kneel, sitting back on heels. Twist body and tap floor with both hands four times on left side. Kneel upright. Twist body and repeat tapping on right side. Repeat eight times on each side. 6. Bean picking. Throw twenty small objects, such as beans on the floor. Pick up one at a time and place on a shelf above the head using hands alternately. Do it as quickly as possible.

cause and often surgery or careful medical treatment to relieve it. You should consult an ear, nose and throat specialist.

BENEFICIAL EXERCISES: Ques.— "I shall be greatly obliged if you will assist me and show me some of the best and most beneficial exercises for development of the body."

Ans.—Early morning exercises are generally beneficial for those whose occupations do not include physical exertion. The following exercises are useful: 1. Deep-breathing. Rising on the toes and raising arms straight over the head as one inhales; lowering arms and heels as one exhales. Repeat twenty times. 2. Arm exercise. Begin with arms at sides, flex the elbows so that the hands are at the shoulders then extend the arms over the head and keeping elbows straight return the arms slowly to the sides. Repeat twenty times. 3. Bending and twisting. Stand with feet about 24" apart and arms extended out to the sides at shoulder level. Bend forward and twist the trunk so that the right hand touches the left foot, return to starting position then repeat on the other side, ten times to each side. 4. Abdominal exercise. Lie on the back and raise legs slowly until they are straight up. Slowly lower them. Repeat as many times as you are able up to twenty. 5. Leg exercise. Stand with feet together and hands on hips. Squat to the floor and rise again to standing position. Repeat twenty times.

NASAL DISCHARGE: Ques.— "Some fluid is constantly secreting in my daughter's nasal cavity which dries up and forms a crust on the inside of the nose. This crust when removed causes bleeding. She has had this complaint for the past year or so. Kindly suggest some treatment."

Ans.—A mucous discharge from the nose which continues more than two weeks (the usual duration of a cold) may be due to allergy, infected sinuses or structural deformity of the nose. It requires expert diagnosis to locate the

IRON LUNG: Ques.— "What is an iron lung? The name is completely mystifying. Please tell me some rudimentary facts about it."

Ans.—The "Iron Lung" is the popular name for the mechanical respirator.

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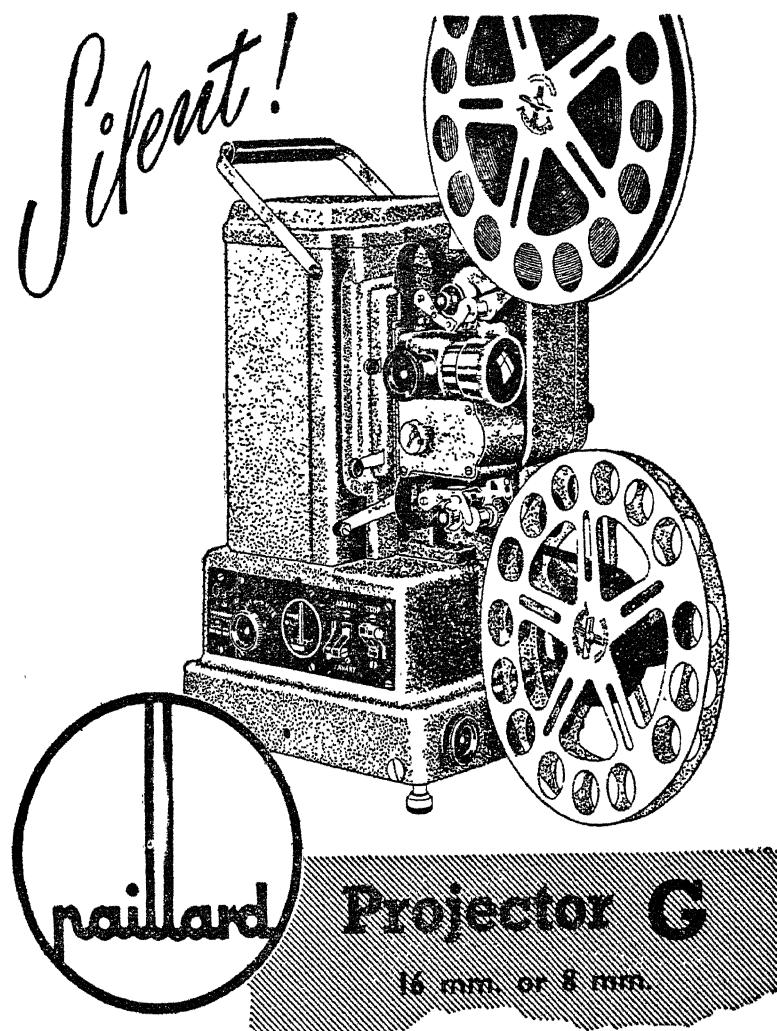
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TRANSPARENT BANDAGES FOR WOUNDS

TREVOR I. WILLIAMS

ALTHOUGH the bandaging of wounds must be one of the oldest and most important forms of medical treatment, even the best of modern bandages are not entirely satisfactory, because so many conditions have to be fulfilled. For this reason a research unit sponsored by the British Medical Research Council has been investigating the possibility of using new types of material for surgical dressings.

Recently, they have reported that a new kind of nylon sheet has proved remarkably successful. To make this nylon sheet, the basic nylon material is transformed, not into the filaments used for stockings or fabrics, but into a thin sheet or film rather like that used for plastic raincoats. The sheet is solid, while nylon stockings or fabrics are merely woven materials full of holes between component fibres.

RESEARCH AT BIRMINGHAM

This research into the use of such nylon for bandages has been done at the Birmingham Accident Hospital—a hospital which is unique of its kind, not only in Britain but in the world—where it has been possible to test the new type of bandage very thoroughly on many different kinds of injury.

Trials are still continuing, but, unless unexpected difficulties are encountered, it is likely that it will

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eventually be used in hospitals throughout the world.

QUICK STERILIZATION

A pointer towards the new bandaging material came from wartime research on clothing for troops fighting in the tropics. There the same problem arose—of finding a material which was sufficiently waterproof to protect the wearer from heavy rain, and yet would not prevent the evaporation of perspiration. It was discovered that it was possible to make fabrics which would allow the passage of water vapour and yet be quite impervious to liquid water.

Guided by this discovery, the Birmingham research team tested various possible materials but they were handicapped by the fact that any wound dressing must be capable of quick and complete sterilization either by heating or by soaking in antiseptics.

A type of nylon sheeting alone fulfilled all their stringent requirements. Even when the sheet was immersed for several hours in cultures of germs far stronger than any normally found in infected wounds, none of the germs passed through it. It can be sterilized either by dry heat or by antiseptics in common use.

Another great advantage of the

new dressing is that it is quite transparent, which means that the healing of a wound can be inspected at any time without trouble or pain.

GERM-PROOF

Research workers found some difficulty at first in preventing germs from finding their way under the edges of the dressing, but at last they found a type of adhesive plaster which forms a perfect seal and with these and transparent nylon sheeting they make little "windows" which can be fitted over the wound and will stay firmly fixed in place for days on end. The only common agent which will remove this kind of dressing is oil, but a special type of adhesive has been devised for dressing wounds which might become oily, for example on the hands of garage workers.

The new type of bandage should prove of great value not only to patients undergoing hospital treatment but also for the dressing of minor injuries—of the cut finger type, which constantly occur in daily life, especially among industrial workers. As it causes the minimum of interference with movement and can be left in position for several days, minor injuries need cause no interruption to work or play.—*B.I.S.*

of one part in 10,000,000,000 may be reached," the NBS says. This would allow a maximum error of only one second in over 300 years. The present clock is accurate to one part in 20,000,000.

During the first public demonstration of the clock in Washington, D. C., Dr. Edward U. Condon, Director of the NBS, explained its basic principles. In each of the molecules of ammonia gas are four atoms—three of hydrogen and one of nitrogen. Assuming the hydrogen atoms are placed in a triangular pattern, the nitrogen atom moves forward in a course perpendicular to their plane. This vibration takes place 24,000,000,000 times a second. It continues unvaryingly at that rate regardless of age, pressure or temperature. The action is far more regular than the vibration of the balance wheel, the pendulum or quartz crystal used in conventional time pieces. It also is more reliable than the speed of the earth's rotation, which varies minutely from day to day because of the friction of tides in shallow seas and other interference not yet fully understood by scientists.

The vibration of the atom does not furnish the power to drive the atomic clock; the atom's job is to regulate an electronic circuit that supplies the power.

The ammonia gas is placed in a hollow 30-foot long spiral tube—known as a waveguide absorption cell. Through this tube is sent a high-frequency radio wave, originally produced by a quartz oscillator and boosted to a higher frequency by a frequency-multiplier. If the frequency of the wave is the same as the frequency of the vibrating nitrogen atoms, the atoms absorb the wave; if the frequency differs, absorption does not occur, and an "error signal" adjusts the oscillator to bring the frequencies into agreement.

Condon declares that "the oscillator which is inclined to drift with age—that is, change in frequency—is thus 'locked' to the ammonia molecule." The oscillator can then control an electrically driven clock with "extreme accuracy."

A similar "locking" of radio station frequencies, to eliminate present-day "drifting" from allocated wave lengths, is foreseen to reduce the present overcrowding of radio space.—*USIS.*

ATOMIC CLOCK

THE world's first atomic clock, unveiled recently in the United States, keeps time with extraordinary accuracy—its maximum possible error is figured at one second in 230 days. But scientists of the National Bureau of Standards (NBS) of the Department of Commerce who built the clock, are working to improve its efficiency. It is theoretically possible, they say, to construct a better atomic clock—one that will gain or lose only one second in 300 years.

The research is being pushed because the atomic time standard is of great potential value in fields of scientific research where precise measurements of time and frequency are required, such as in astronomy, physics, chemistry and engineering. It can also be used to control radio frequencies. By lessening the natural "drifting" of stations from their allocated wave lengths, it may help

to reduce the present overcrowding of radio space, now both a national and international problem. Secretary of Commerce Charles Sawyer notes.

Today's atomic clock is regulated by the ceaseless and unvarying vibrations of atoms within molecules of ammonia gas. It does not satisfy the scientists, they say, because the molecules are big, clumsy and too active—they are continually bouncing around and hitting each other, cutting the clock's efficiency to only a fraction of what it might be. The solution, they believe, is to get rid of the molecules and use atoms only.

Research is proceeding along several lines. One project being developed by the NBS in co-operation with Columbia University, New York City, is an investigation of the usefulness of beams of atoms of the rare element cesium to control the clock. Such control, it is believed, would better the clock's performance by from 10 to 100 times. "Calculations show that an ultimate accuracy

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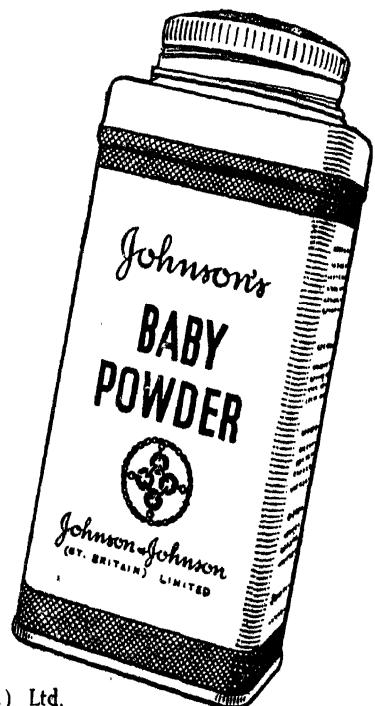
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FLOOD DAYS

ARTHUR WARREN

THE time of the Flood had come. God's one hundred and twenty years of mercy were almost ended. Inside the ark Noah and his family felt grateful to God. Outside the great ship was to be heard the jeering and mocking of the wicked multitude. (Matthew 25:38, 39.)

"We only have to die once. On with the dance! If the old man's flood comes, we will dance a dance with death. Bring out more wine! Who cares for death!"

This was their attitude during the seven days following the closing of the ark's door and the coming of the water. It was the same attitude adopted by the conceited young Babylonian king, Belshazzar, centuries later. It is the attitude adopted today when men in the face of certain death sing, "Roll out the barrel."

But when God appears as Judge there will be no levity. Teeth will chatter with terror, and knees will knock together in an agony of fright.

Seven days had passed without incident since God closed the ark's great door. But on the next day—what a change!

Heavy, dark clouds gathered on the horizon. There was a mutter of thunder, then a weird noise as of an advancing army. A strange, lofty cloud, filled with litter and leaves and dust, was rushing down upon the people. From its midst was hurled a javelin of lightning. The next moment the storm was on them in all its fury.

Rain fell in fearful cascades. The tempest blew worse than the dread typhoon of the China Seas. Roofs were torn away. Houses collapsed into the muddy, surging waters. People ran about, screaming with terror. There was no one then to call: "On with the dance." Oh, that men in our time would learn the lesson and turn to God!

Suddenly there was a greater roar from the skies, as of a multitude of demons let loose. The floodgates of heaven opened as the moon was extinguished and the tempering vapour envelope condensed and came down in great cataracts of rain. Scores of ancient stories still tell of the great "moon catastrophe."

At the same time, above the noise of the elements, was heard a fearful

When the roofs of these great caves under the seas were forced upward, an immediate result would be the production of huge tidal waves with enormous destructive powers. Just one such tidal wave which was generated off Alaska in March, 1946, swept the Pacific Ocean at four hundred miles an hour, killed thirty-two people, smashed a hundred-foot lighthouse, and battered ships at



sound like ripping, crashing thunders underground. "The same day were all the fountains of the great deep broken up." Genesis 7:11. (See also 2 Peter 3:5, 6.) God had formed colossal subterranean reservoirs of water in all parts of our 8,000-mile diameter planet. Now these were burst open, and their waters hurled out with indescribable force.

Picture that awful scene! Great rocks were thrown in the air as if by a volcanic eruption. Frightful destruction was wrought by the great quantities of water, as it gushed from out of the earth from the "fountains of the deep." It may well be that some of our mammoth caves had their first beginnings at this time.

places thousands of miles apart. At Honolulu, almost a thousand miles from Alaska, it smashed houses, destroyed roads, wrecked railways, and left twenty-eight people dead or missing.

What, then, must have been the awfulness of the scene at the time of the Flood, when thousands of these colossal tidal waves were driving as cruel threatening mountains of water over land and ocean? For almost five awful months the tortured earth's crust was torn open and broken by these terrific forces.

But there was yet another awful force at work. When the Hebrew story mentions the waters, it speaks of them as "going and returning,"

as though there was a savage backward and forward movement in these mighty tides—now surging forward up the submerged valleys, now down again, moving millions of tons of rocks, stones, and mud with them. Here they swept away forests and there they laid them down again. Then they covered them with a hundred feet of mud—and laid another mud-covered jungle on top of these. In the coal mines of our day we see these forests again. God writes the story of the Flood in the rocks and in the coal we burn in our fires.

THE ARK FLOATS

A ship the size and weight of the ark would need about twenty feet of water to float if it were at ocean level. But it is much more likely that it was built on the side of a hill, very near to the forests where the gopher trees grew, at least two or three hundred feet up. This would save much hard labour in transporting the heavy timber. It would also float the ark well out of the way of collision with the many obstacles on the lower levels.

But what a prodigious volume of water was this! In our day the greatest rainfall on earth is probably that of Burma, where fifty-three inches fall in forty days. But the flood undoubtedly rose more than three hundred feet in forty days! Sixty times as much!

So came the great day when the ark floated on the surface of the waters. Those inside felt the vessel shudder, then lift and stagger and lurch, and she was off! With the ark plunging, rising, rocking, and pitching, Noah's family must have endured a great deal of discomfort.

Outside the ark, God's death sentence upon human and animal was being executed. Every human being and every animal and bird drowned in the waters. We shall not attempt to picture the horrors of the scene.

THE THIRD GREAT MOVEMENT OF THE EARTH'S CRUST

After one hundred and fifty days "the waters assuaged; the fountains also of the deep and the windows of heaven were stopped, and the rain from heaven was restrained; and the waters returned from off the earth continually." Genesis 8:1-3.

The third great movement of the earth's crust now took place. See!

a mighty power is at work again, raising lofty mountain ranges from the bosom of the deep. Behold! The Rocky Mountains appear! Now the Alps, with Jungfrau and the Matterhorn! Far away rise the lofty Himalayas. What power is in the mighty arm of God who causes to rise these huge masses of rock! What a witness they are to us of the twentieth century.

The waters advanced for one hundred and fifty days. After that it was more than six months before God opened the great door of the ark for Noah and his family to walk on the earth again.

What a sight met Noah's eyes! A scene of world-wide desolation! Miles and miles of soft mud, through which the retreating waters had carved out great valleys, immense gorges, terrifying canyons, and deep river beds, such as the Grand Canyon of Arizona and the gorge of Niagara. The rugged beauty of mountain and gorge now testify to us of the great Flood.

Ocean tides and storms played havoc with the mud coasts at first, then in gradually decreasing power as the soft mud hardened into rock or became bound by the growth of vegetation.

These great heights with their contorted strata and their huge, upheaved bulks, confirm God's story of the Deluge that swept away the wicked people of the world that then was. They carry a message of sure retribution and certain justice that we may read. Their silent voices declare that "God will surely punish sin, though His loving mercy tarry long."

But these great heights have another message besides that of justice. They carry a message of infinite love and mercy. Their sides are carpeted

with tender grass and lovely flowers, which whisper the words of God to us. "God is love." God will take care of you. He will give you His joy as you trust Him. He caused flowers, tokens of His love, to grow and bloom upon those huge cliffs, which show forth His everlasting strength. He is ever ready to use that strength in behalf of those who trust Him.

Underneath God's children are those everlasting arms which raised the mountains from the depths of the sea. Do not fear to rest in Him. Yes, this is the story told by the Word of God and geology. This is the message God would have us read in rocks and hills, the rivers and caverns and plains.

True it is that in the years ahead our paths may lead us over rough going, and we may find many ups and downs. There will be hills to climb; difficulties will arise which we must surmount. There will be mountain-top experiences which will thrill our souls, and there will be the valley of the shadow of death through which some of us will be called to walk. But even there God stoops down and whispers, "Fear not, for I am with thee." Genesis 26:24.

It is only when we leave God out of our planning that the burdens of life seem too heavy to bear. We look down instead of up to the heavenly blue sky in which is written this message: "This is the day which the Lord hath made; we will rejoice and be glad in it." Psalm 118:24.

Come to think of it, what better resolution could we make than to resolve to repeat these words; not only when we arise in the morning of each new day, but over and over during the day. And if we keep this resolution we shall find that, despite the fear that is hanging over us, this is a good world in which to live.

THE SWORD OF EGYPT

WESLEY CURTWRIGHT

TO THE student of history, ancient Egypt was "the pioneer of civilization, the pharos which once shone amid a surrounding night of barbarism." This civilization, perpetuated especially in its architecture and art, retained its greatness longer than any other ancient civilization, and Egypt remained for at least 2,000 years one of the master nations

of the earth. But to the student of the Bible, "Egypt" means "spiritual darkness," "the land of bondage."

Yet, in spite of the spiritual darkness of Egypt as revealed in the Bible and confirmed by archaeological research and studies of Egyptian religion, there must have been much that was admirable in the Egyptian character. Else how can we account,

not only for Egypt's extended civilization, but also for the signal recognition accorded to Egypt by God from time to time? God's chosen nation was cradled in Egypt, and His people continued to flee there in times of stress, including the infant Jesus and many of the early Christians.

A careful study of both the Bible and the findings of archaeologists tends to confirm the above conclusion. "Alone of ancient nations, as Sir Gardner Wilkinson has pointed out, the Egyptian considered an act of humanity worthy of record in stone. On the walls of the palace-temple of Ramses III at Medinet Habu, Egyptian soldiers are represented as rescuing a drowning crew of the enemy. Diodorus remarks that in inflicting punishments the Egyptians were actuated not by a spirit of vengeance, but by a desire to reform the offender"—A. H. Sayce. *The Races of the Old Testament*, p. 130. "Veneration for the dead, and the conviction that in the after world the soul would be called to an accounting and weighed in the balance, coloured the thought of the Egyptians on all moral questions," we are told by the historian, Wallace K. Ferguson, who adds that the Egyptians were "sober, industrious, . . . kindly, conscientious, and obedient."

In view of their character and achievements, it is not surprising that God had such high respect for the Egyptians that He mercifully withheld His final national judgments from them for centuries after the Israelites left Egypt. In addition, He was so grieved over their condition that, before He destroyed their power, He sent them warning after warning, and lamented over them as He lamented over no nation, with the possible exception of Israel. And even in the fearful prophecies foretelling Egypt's doom there is praise as well as censure, there are promises as well as threats.

"Egypt is like a very fair heifer," God said, "but destruction cometh; it cometh out of the north." Jeremiah 46:20. Even the destruction of Egypt was to be attended by a heavenly phenomenon indicative of divine mourning for a lost great nation. "And when I shall put thee out, I will cover the heaven, and make the stars thereof dark; I will cover the sun with a cloud, and the moon shall not give her light. All the bright lights of heaven will I make dark over thee, and set darkness upon thy

land, saith the Lord God." Ezekiel 32:7, 8.

"Who is this that cometh up as a flood, whose waters are moved as the rivers? Egypt riseth up like a flood, and his waters are moved like the rivers; and he saith, I will go up, and will cover the earth: I will destroy the city and the inhabitants thereof. Come up, ye horses; and rage, ye chariots; and let the mighty men come forth; the Ethiopians and the Libyans, that handle the shield; and the Lydians, that handle and bend the bow." Jeremiah 46:7-9. "To whom art thou thus like in glory and in greatness among the trees of Eden? Yet shalt thou be brought down with the trees of Eden unto the nether parts of the earth. . . . This is Pharaoh and all his multitude, saith the Lord God." Ezekiel 31:18.

The above picture, one of foreigners fighting the battles of Egypt,



has been strikingly confirmed by the findings of archaeology and hieroglyphics. Dr. Sayce, who has made an intensive study of Egypt's past, asserts: "The conquests of the Eighteenth Dynasty, like the conquests of Ibrahim Pasha in our own age, were mainly made with the help of foreign mercenaries, aided by the superior discipline of an Egyptian army. Nubians, negroes, and Libyans in the past, Turks, Circassians, and Albanians in modern times, have been the mainstay of Egyptian success in war."—*The Races of the Old Testament*, p. 131.

God's Word continues: "And the sword shall come upon Egypt, and great pain shall be in Ethiopia, when the slain shall fall in Egypt, and they shall take away her multitude, and her foundations shall be broken down. Ethiopia, and Libya, and Lydia, and all the mingled people, and Chub, and the men of the land that is in league, shall fall with them by the sword." Ezekiel 30:4, 5.

Again secular history, made possible by the spade of the archaeolo-

gist, corroborates the inspired record. Concerning this land of mixed races, Dr. Sayce says: "The mercenaries who fought the battles of the Egyptians avenged themselves from time to time by placing chiefs of their own upon the throne. The Twenty-second Dynasty, to which Shishak, the conqueror of Jerusalem, belonged, was of Libyan ancestry, and the Twenty-fifth consisted of Ethiopian invaders. Even the Twenty-sixth, which attempted an antiquarian revival and professed to represent all that was most national in the Egyptian character, came from the mixed population of the Delta and allied itself with the Greeks."—*The Races of the Old Testament*, pp. 148, 149.

God's Word was most specific concerning the destruction that was coming from the north. It was to be wrought by the hand of Nebuchadnezzar, king of Babylon. "Thus saith the Lord of hosts, the God of Israel; Behold, I will send and take Nebuchadnezzar the king of Babylon, my servant, and will set his throne upon these stones that I have hid; and he shall spread his royal pavilion over them. And when he cometh, he shall smite the land of Egypt, and deliver such as are for death to death; and such as are for captivity to captivity; and such as are for the sword to the sword." Jeremiah 43:10, 11.

Secular history has not always borne witness to the accuracy of this prophecy. "For a considerable time the critics denied that Nebuchadnezzar ever made a campaign into Egypt, but the spade of the explorer has made havoc of this denial, and the modern discoveries have confirmed the prophecy of Jeremiah. According to an Egyptian inscription, the Babylonian king attacked Egypt in the year 577 B.C., penetrating as far as Syene and the borders of Ethiopia. Hophra, who still reigned, was deposed, the General Amasis being raised to the throne in his place to rule the land as a vassal of the Babylonian king. According to the only historical fragment of the reign of this king known, Nebuchadnezzar made an expedition to Egypt in his thirty-seventh year. This was, to all appearance, against his vassal Amasis, who, like Zedekiah, had revolted against the powers that had raised him to the throne. The rebellion was suppressed, but the ultimate fate of Amasis is not known." (Pinches.)"—*The Spade and the Bible*, by W. W. Prescott, p. 164.

It was because of their oppression of other nations that God threatened the Egyptians. "Son of man, take up a lamentation for Pharaoh king of Egypt, and say unto him, Thou art like a young lion of the nations, and thou art as a whale in the seas: and thou camest forth with thy rivers, and troubledst the waters with thy feet, and fouledst their rivers. Thus saith the Lord God; I will therefore spread out My net over thee with a company of many people; and they shall bring thee up in My net." Ezekiel 32:2, 3.

History tells us that the prosperity of Egypt was most continuous before it became a foreign power. The nation, although at the height of its imperial "glory," was culturally on the downgrade when it oppressed the Israelites. "The extensive military operations of Egypt and the monumental building campaign constantly in progress doubtless occasioned a shortage of man-power in the country.... In the ruins of Palestinian cities archaeologists have found innumerable evidences of the long stay of these mercenary troops during the time that Egypt was in political control of Palestine. The biblical account that 'the Egyptians made the children of Israel to serve with rigour' (Exodus 1:13,) and the Rameses annals which state that Pi-thom and Per-Rameses were built, 'with forced Asiatic labour,' are quite in keeping with known facts of history."—James C. Muir, *His Truth Endureth*, p. 65.

The Egyptians began to lose their Asiatic empire when the children of Israel conquered Canaan. But in spite of internal disintegration Pharaohs kept attempting, after the manner of all imperialists, to recoup their losses by further conquests. Merenptah, who reigned long after the Exodus, celebrated such an attempt with a hymn of victory which is inscribed on a temple pillar, and which is famous as the only ancient writing outside of the Bible which mentions Israel by name. It reads as follows:

"The kings are overthrown, saying:
 'Salaam!'
Not one holds up his head among
 the Nine
Nations of the Bow.
Wasted is Tehenu,
The Hittite land is pacified,
Plundered is the Canaan, with
 every evil.

Carried off is Ashkalon,
Seized upon is Gezer,
Venoam is made a thing not existing.
Israel is desolated, her seed is not,
Kharu (South Palestine) has become a widow for Egypt.
All lands are united, they are pacified;
Every one that is turbulent is bound by King Merenptah."

—Id., p. 68.

Egypt was repeatedly assured by God that her destruction would not



be complete. "And the Lord shall smite Egypt: He shall smite and heal it." Isaiah 19:22. "And afterward it shall be inhabited, as in the days of old, saith the Lord." Jeremiah 46:26. "Yet thus saith the Lord God; at the end of forty years will I gather the Egyptians from the people whither they were scattered: and I will bring again the captivity of Egypt, and will cause them to return into the land of Pathros, into the land of their habitation; and they shall be there a base kingdom." Ezekiel 29:13, 14.

History records that, since its decline, Egypt has been up and down as a nation, but never completely out. In 661 B.C. the city of Thebes, "that for 1,500 years had been mistress of Egypt, and during much of that time mistress of a large part of the then known world," was barbarously sacked by Assurbanipal, king of Assyria. And yet, less than fifty years later, Egypt was free again under a native dynasty. In 525 B.C. Cambyses made Egypt a Persian province, but in 406 B.C. Egypt regained its independence and maintained it until 342 B.C. This has continued until, in our own day, after more than a score of years of occupation by British troops, Egypt is again an independent, but base, nation.

And always, in His forecasts of doom, God held out the assurance of repentance to the Egyptian nation. "In that day shall there be an altar to the Lord in the midst of the land of Egypt, . . . for they shall cry unto the Lord in the midst of the land of Egypt, . . . for they shall cry unto the Lord because of the oppressors, and He shall send them a saviour, and a great one, and he shall deliver them." Isaiah 19:19, 20. Like Nebuchadnezzar, Pharaoh had boasted: "My river is mine own, and I have made it for myself." Ezekiel 29:3. But God promised that "they shall know that I am the Lord, when I have set a fire in Egypt, and when all her helpers shall be destroyed." Ezekiel 30:8. No brighter augury for the future could be given the Egyptians than the assurance that they would some day cast off their spiritual darkness and acknowledge the true God and Creator. "Princes shall come out of Egypt; Ethiopia shall soon stretch out her hands unto God." Psalm 68:31.

The history of Egypt clearly fulfills, in all its known details, the statements and prophecies of the Bible concerning that nation. Surely God has nowhere given a clearer example of His continuing mercy and esteem for a gifted but erring nation than in the history of His dealings with Egypt.

Shall we not profit by these examples, and learn to "do justly, and to love mercy, and to walk humbly with our God"? Micah 6:8. For "all these things happened unto them for ensamples: and they are written for our admonition, upon whom the ends of the world are come." 1 Corinthians 10:11.